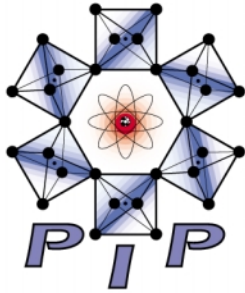


Fissile Materials Disposition Program



Plutonium Immobilization Project Development and Testing Baseline and Progress Monthly Report January 2001

February 2001

Work performed by:

Lawrence Livermore National Laboratory
Westinghouse Savannah River Company
Argonne National Laboratory
Pacific Northwest National Laboratory
For the U.S. DOE MD Program

Plutonium Immobilization Project

Lawrence Livermore National Laboratory
Livermore, California 94550

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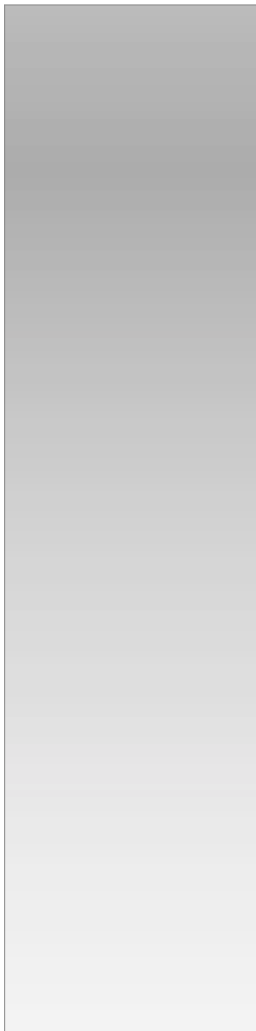
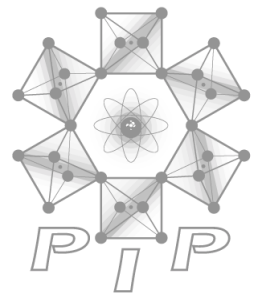
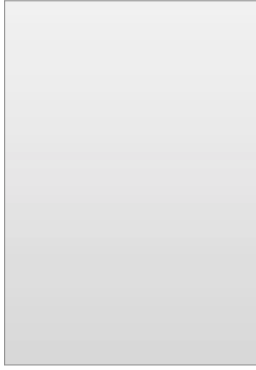
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Executive Summary

1 Pre-Design Phase Activities

1.2 DOCDR

Major Technical Accomplishments

No activity. The DOCDR, Rev. 3, is awaiting final sign-off sheet from NN-62 prior to issuance.

Significant Issues and Risks

None.

2.1 Program Management

Major Technical Accomplishments

- The program began detailed planning to evaluate the impact of a budget reduction in FY01.
- The WSRC, PNNL and ANL QA organizations performed surveillances during the month. The TPO QA Office prepared the audit report for the TPO QA audit of LLNL conducted in December.

Significant Issues and Risks

The schedule for the start of design and major work stoppage is at risk if a budget reduction in FY01 is required.

2.2 D&T for Design

2.2.1 Technical Support and Integration

Major Technical Accomplishments

- Revisions to the SDDs for the 13 MT throughput are underway. Some SDDs are complete and awaiting issuance.
- Resolution of RFETS materials-acceptance issues is essentially complete. WSRC is awaiting transmittal of item-level characterization data from RFETS.

Significant Issues and Risks

None.

2.2.2 Immobilized Form Development

Major Technical Accomplishments

A draft of the Preliminary PCM spreadsheet was distributed for review.

Significant Issues and Risks

SEM work at WSRC will be limited until July 2001.

2.2.3 Plutonium Conversion Process and Equipment Development

Major Technical Accomplishments

- Extended the tunnel from the metal conversion glove box and aligned the tunnel to the declad glove box.
- Completed cold tests of the pulsed bed and pneumatic dustless transfer system and determined an improved frit design and system operating parameters for the halo blow back system.

Significant Issues and Risks

None.

2.2.4 First-Stage Immobilization Process and Equipment Development

Major Technical Accomplishments

- The PuCTF glovebox line in B-241 has been deactivated and completely disassembled. The re-installation of the PuCTF equipment in the Plutonium Facility continues as planned.
- Fully integrated furnace testing continues at CETL. The goal of recent tests was to minimize thermal gradients within the furnace. By raising the tray stack and controlling leakage air, the temperature uniformity within the furnace has dramatically improved. This has resulted in significantly improved puck quality.
- Feed material blender testing has been postponed until FY 2002 due to funding reductions.

Significant Issues and Risks

- The PuCTF schedule remains tight due to the availability of craft personnel and their access to the Plutonium facility.
- Delaying feed material blender testing in FY02 will eliminate any recovery time from problems prior to PIP design start.

2.2.5 Second-Stage Immobilization Process and Equipment Development

Major Technical Accomplishments

The SDDs for Can-in-Canister Design and Assembly, Canister Transport, and DWPF Receiving and Handling were issued.

Significant Issues and Risks

None.

2.3 D&T for Form Qualification

2.3.1 Form Performance Testing and Dissolution Modeling

Major Technical Accomplishments

Single-pass flow-through (SPFT) tests on a ^{238}Pu -doped pyrochlore-rich composition at pH = 2 and 90°C indicate that the apparent dissolution rate of this material is ~1,000X faster than the ^{239}Pu -doped and ‘cold’ analogue material. It is not yet clear if these rates are valid (i.e., whether the increase in rate is due to radiation damage or some other effect). (PNNL)

Significant Issues and Risks

We do not yet understand the reason for much higher SPFT dissolution rate measured on the ^{238}Pu -bearing sample.

2.3.2 Thermodynamic Data Determination and Validation

Major Technical Accomplishments

This task is complete.

Significant Issues and Risks

Reconnaissance experiments conducted at PNNL in late FY00 indicated that the solubility of Hf is strongly enhanced by the presence of carbonate. This behavior was totally unexpected, and could have important implications as to the mobility of Hf (the backup neutron absorber) under repository conditions. Our current plans and funding call for termination of this task in FY01.

2.3.4 Form Qualification and Repository Interactions

Major Technical Accomplishments

Discussions continue with DOE-RW and DOE-EM on changes in the latest draft RW WAS-RD document. This latest revision contains significant changes from previous versions.

Significant Issues and Risks

The roles and responsibilities of NN, EM, and RW remain unclear with respect to the “ownership” of the IPWF, and this continues to impede finalization of the PIPS. Attention from NN, EM and RW management is needed to clarify each organization’s roles.

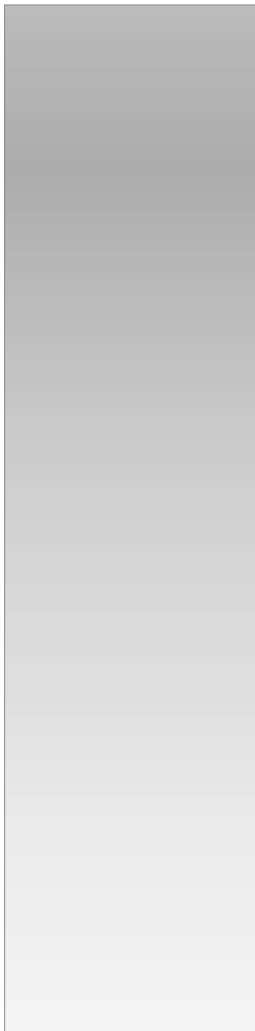
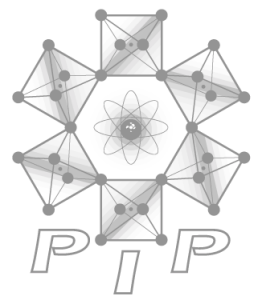
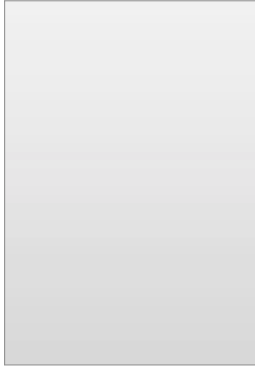
3 Technology Transfer

Major Technical Accomplishments

Planning for the combined independent design and technology review of the PIP program is underway.

Significant Issues and Risks

No significant issues or risks.



Report on Cost, Schedule, and Technical Progress

1 *Pre-Design Phase Activities*

1.2 DOCDR

Participants: LLNL and WSRC

Summary of Progress

DOCDR, Rev. 3, is awaiting final sign off sheet from NN-62.

Cost Performance

The LLNL variance of -13% reflects the currently (July D&T Plan) underestimated scope at LLNL for this effort in FY01. The task is complete with the incorporation of MD comments. A review copy of the DOCDR is with NN-62 awaiting signature.

Schedule Performance

The DOCDR effort is now complete except for receipt of the NN-62 sign off page and the printing.

Issues and Risks

None.

2.1 Program Management

2.1.1 Technical Project Office

Participants: LLNL, WSRC, ANL, and PNNL

Summary of Progress

Detailed planning is underway to evaluate the impacts of a budget reduction in FY01.

Cost Performance

No significant cost variance.

Schedule Performance

No significant schedule variance.

Issues and Risks

The D&T Program is operating under budget authority that is substantially less than identified in the FY01 AOP. If additional funding is not provided, work on many tasks will cease or be significantly curtailed.

2.1.2 Quality Assurance

Participants: LLNL, WSRC, ANL, and PNNL

Summary of Progress

Technical Project Office

The TPO QA Office prepared the audit report for the TPO QA audit of LLNL conducted in December.

Project Participants

Argonne National Laboratory (ANL) initiated two internal surveillances, one in the area of Measurement and Test Equipment processes and the other in the area of Corrective Actions. Impacts of the budget reductions for FY01 were evaluated and some QA related activities associated with revising the project technical procedures have been reduced.

Lawrence Livermore National Laboratory (LLNL) developed and conducted training for an additional fifteen project personnel. LLNL transmitted the response to TPO Technical Corrective Action Report 01-L001 from the TPO QA Audit in December.

Pacific Northwest National Laboratory (PNNL) performed the field work for the surveillance covering procurement document control and control of purchased items and services.

Westinghouse Savannah River Company (WSRC) performed a surveillance of the FDD and SDD development task. The scope of the surveillance was to

summarize the status of the SDD's and review the format used for development and review of the SDD. QA training has been developed and set up for CPTF task personnel.

Cost Performance

- PNNL had a variance of -18% (under spent) for the QA task due to estimated cost for labor expense not being reported in the January timeframe as originally projected. This will not impact the overall budget for this task. Adjustments to the spend plan will be made in February to reflect reductions to the TY01 budget as directed.
- No significant cost variance for TPO, ANL, LLNL, and WSRC.

Schedule Performance

No significant schedule variance for any participant.

Issues and Risks

None.

2.1.3 Document Control

Participants: LLNL and WSRC

Summary of Progress

The DCC updated the master report, which lists documents received through Nov. 2000.

Cost Performance

No significant cost variance.

Schedule Performance

No significant schedule variance.

Issues and Risks

None.

2.2 D&T for Design

2.2.1 Technical Support and Integration

2.2.1.1 Feed Materials Characterization and Blending

Participants: LLNL and WSRC

Summary of Progress

- A final draft of the RFETS materials evaluation was completed, leading to a final editing session planned at LLNL the second week of February. SRS has requested the opportunity to review the final report to ensure that there are no disconnects between PIP plans and Site storage criteria. Further work on developing the Feed Materials Database, and preparation of the FY01 Feed Materials Report, remains suspended until the existing database is transmitted from LLNL to SRS. WSRC has obtained the FY1999 Nuclear Materials Inventory Assessment data and plans to receive more-recent (end of FY2000) item-level information from Rocky Flats and Hanford supplementing data already available from Savannah River inventories.
- A meeting of the Material Review Board to evaluate exceptions or clarification to the PIP Acceptance Criteria, for Hanford materials stabilized from polycubes and via magnesium hydroxide precipitation, was postponed to the first week of February. Given specific understandings with the Site, the materials appear to be compatible with PIP processing, and a greater issue may be whether the products of the baseline treatments can meet the storage standard DOE-STD-3013-2000.

Cost Performance

No significant cost variance.

Schedule Performance

Due to L. Gray's accident, Milestone 2.1/1/FY00, Revised draft of the feed materials characterization report, is on hold at least until February. Information from the draft will be provided on an as-needed basis to minimize schedule impacts.

Issues and Risk

- The reassessment of the RFETS data to evaluate the impact on Immobilization of the proposed RFETS consolidation program has stretched out the transition of this task to SRS from LLNL. Further work on developing the Feed Materials Database and preparation of the FY01 Feed Materials Report by WSRC was suspended. The suspension was due to awaiting transfer of the existing database from LLNL to SRS, transfer of item-level data from RFETS to SRS, and availability of the end-of-1999 DOE Nuclear Materials Inventory Assessment. The goal of completing the 2001 Feed Report by September 2001 is not in jeopardy, but the scope and utility of the information system may suffer.

- In order to perform critical planning studies, plutonium materials data from disparate sources must be consolidated. These studies include an analysis of the impacts of different timings proposed for processing the inventories that are covered by, or not covered by, the U.S.-Russian agreement. These scenarios could affect equipment choices, operating plans, and even acceptance criteria.
- PIP continues to work to confirm the quantities of plutonium that each site will transfer to MD for disposition. Major sites are still evaluating disposing some inventories to WIPP (instead of transfer to PIP), making it uncertain whether enough plutonium is firmly committed to MD to meet the strict requirements of the U.S.-Russian agreement. Decisions on MD-versus-WIPP disposition are on the critical paths for some EM stabilization plans, e.g., the RFETS closure plan, and decisions made at one site can affect MD's acceptance plans for other sites.

2.2.1.2 Proliferation Resistance

Participant: LLNL

Summary of Progress

No activity.

Cost Performance

The LLNL variance of 100% reflects the fact that the response to the NAS report is undecided. It was anticipated in July 2000 that the activity would begin in December.

Schedule Performance

A firm schedule for a study has not been established. The schedule variances do not have an impact on the overall schedule at this time.

Issues and Risk

This task is on hold until a decision is reached on the scope and schedule for any response to the NAS report.

2.2.1.3 Systems Integration and Cross-Cutting Functions

Participants: LLNL and WSRC

Summary of Progress

The MC&A, analytical lab, and radiological control SDDs has been modified to reflect the scope change to a 13 MT throughput facility. Comments from LLNL have been received and incorporated in the final draft. The draft SDD is in final edit and review. The edit and review process has required more effort than anticipated in August when the schedule was established. The SDDs are anticipated to be issued in February 2001.

Cost Performance

No significant cost variance.

Schedule Performance

- Milestone 2.2.1.3/FY01/a, *Provide Draft SDD*, was due 12/31/00. Completion of this milestone will be delayed due to limited resource availability in completing the overall project SDD package. The delay is not likely to affect the overall project schedule because the two independent reviews and start of preliminary design will be delayed until FY 2002 due to budget reductions announced in December.
- The Technical Support SDD (milestone 2.2.1.3/FY01/a) drafts are in final edit and review. The edit and review process has required more effort than anticipated in August when the schedule was established. The SDD will be issued in March 2001. The projected issue date of March is not expected to impact the overall design schedule.

Issues and Risk

The security posture for PIP remains open pending the DOE-NN decision on the overall security approach for the Plutonium Disposition facilities.

2.2.1.4 Material Transport System

Participant: WSRC

Summary of Progress

The SDD has been modified to reflect the scope change to a 13 MT throughput facility. Comments from LLNL have been incorporated in the final draft. The edit and review process has required more effort than anticipated in August when the schedule was established. The SDD will be issued in February 2001.

Cost Performance

No significant cost variance.

Schedule Performance

Milestone 2.2.1.4/FY01/a, *Provide Draft SDD*, was due 12/31/00. Completion of this milestone will be delayed due to limited resource availability in completing the overall project SDD package. The delay is not likely to affect the overall project schedule because the two independent reviews and start of preliminary design will be delayed until FY 2002 due to budget reductions announced in December.

Issues and Risk

None.

2.2.1.5 Waste Handling System

Participant: WSRC

Summary of Progress

The SDD has been modified to reflect the scope change to a 13 MT throughput facility. Comments from LLNL have been incorporated in the final draft. The

edit and review process has required more effort than anticipated in August when the schedule was established. The SDD will be issued in February 2001.

Cost Performance

No significant cost variance.

Schedule Performance

Milestone 2.2.1.5/FY01/a, *Complete Waste Generation Report*, was due in December 2000. This report will be delayed two months due to limited resource availability. The delay will not affect the overall project schedule.

Issues and Risk

None.

2.2.2 Immobilized Form Development

2.2.2.3 Process Control Model Development

Participants: LLNL and WSRC

Summary of Progress

- A draft spreadsheet was assembled as the basis for the preliminary Process Control Model in support of Milestone 2.2.2.3/FY01/a. This spreadsheet includes as inputs the composition and isotopics of the plutonium oxide feed materials. As outputs it includes a calculation of the product composition, isotopics, phase assemblage, density, and pellet integrity. It also checks against the feed impurity and processing specifications. The draft spreadsheet has been distributed for preliminary review. (LLNL)
- A meeting was held between the SRTC form development and the NDE/XRD teams to lay out the task schedule for the remainder of the year. An objective of the meeting was to develop plans to transition from the form development work into the product qualification work under the NDE/XRD task. (WSRC)
- Interrupted sintering cycle testing to ascertain the phase development progression in Hf-Pu-U, Hf-Ce-U, and Hf-Ce-Ce samples is complete. X-ray diffraction analysis of the completed samples is underway. (WSRC)

Cost Performance

No significant cost variance.

Schedule Performance

It is anticipated that the Milestone 2.2.2.3/FY01/a, *Preliminary Process Control Model*, will be ready for QA review by the end of March 2001. Completion of the QA review should be complete by the end of April.

Issues and Risk

The most precise SEM at SRS will be taken out of service to be installed in a glove box. This will benefit PIP in the long term, but microscope access will be limited until July 2001. (WSRC)

2.2.3 Plutonium Conversion Process and Equipment Development

2.2.3.1 Material Receipt and Storage

Participant: WSRC

Summary of Progress

- The SDD has been modified to reflect the scope change to a 13 MT throughput. Revision E of the SDD was issued in January.
- No further activity is expected for this task in FY 2001.

Cost Performance

No significant cost variance.

Schedule Performance

Milestone 2.2.3.1/FY01/a, *Provide Draft SDD*, was due 12/31/00. Revision E of the SDD was issued in January 2001, thereby completing this milestone commitment. The delay will not affect the overall project schedule.

Issues and Risk

None.

2.2.3.3 Material Size Reduction

Participant: WSRC

Summary of Progress

WSRC recently was given the responsibility for development of the SDD for Material Size Reduction. This task was initiated in January and will be completed in February 2001.

Cost Performance

No significant cost variance.

Schedule Performance

Milestone 2.2.3.3/FY01/a, *Provide Draft SDD*, was due 12/31/00. Completion of this milestone will be delayed due to limited resource availability in completing the overall project SDD package. The delay is not likely to affect the overall project schedule because the two independent reviews and start of preliminary design will be delayed until FY 2002 due to budget reductions announced in December.

Issues and Risk

None.

2.2.3.4 Material Unpackaging and Sorting

Participants: WSRC and LLNL

Summary of Progress

The SDD has been modified to reflect the scope change to a 13 MT throughput. The edit and review process has required more effort than anticipated in August when the schedule was established. The SDD will be issued in February 2001.

Cost Performance

No significant cost variance.

Schedule Performance

Milestone 2.2.3.4/FY01/a, *Provide Draft SDD*, was due 12/31/00. Completion of this milestone will be delayed due to limited resource availability in completing the overall project SDD package. The delay is not likely to affect the overall project schedule because the two independent reviews and start of preliminary design will be delayed until FY 2002 due to budget reductions announced in December.

Issues and Risks

None.

2.2.3.6 Metal Conversion

Participants: LLNL and WSRC

Summary of Progress

- The de-clad glove box was anchored to the floor in Room 1006. The glove box was aligned to the tunnel section extending from the metal conversion glove box.
- We continued assembling subsystems in the metal conversion glove box. Tests of the oxide and dustless transfer subsystems were completed, and were installed into the oxide side of the metal conversion glove box. Plumbing for the pneumatic control system inside the glove box is approximately 70% complete. All major subsystems are now installed, and the next step is to mechanically align these systems.
- Cold tests of the oxidation system were completed in January. Tests to determine the operating parameters and design changes required for the halo blow back system were successfully completed. The information from these tests will be incorporated into the initial oxidation process operating procedure for cold run checkout of the metal conversion system in Bldg. 332
- WSRC personnel assigned to LLNL recently were given the responsibility for revising the SDD for Metal Conversion. This task was initiated in January.

Cost Performance

- No significant cost variance at LLNL.
- This task is under spent by \$6,847 (34%) at WSRC due to limited resource availability. This cost variance will not adversely impact the project.

Schedule Performance

- Milestone 5.6.a/FY99, *Perform Feasibility Demonstrations on Pu-Al Alloys* was reviewed and is being routed for final signatures.
- Milestone 5.6.3/FY00, *Move System Into Radiation Material Management Area* was reviewed and is being routed for final signatures.
- Milestone 2.2.3.6/FY01/b, *Provide Draft SDD*, was due 12/31/00. Completion of this milestone will be delayed due to limited resource availability in completing the overall project SDD package. The delay is not likely to affect the overall project schedule because the two independent reviews and start of preliminary design will be delayed until FY 2002 due to budget reductions announced in December.

Issues and Risk

The current success oriented schedule does not include intangible issues such as DNFSB reviews of the Plutonium Facility. DOE Oakland representatives, members of the facility staff, and programmatic personnel reviewed the metal conversion schedule. The current schedule reflects our best planning based upon the remaining work, facility staff availability, and DOE Oakland review requirements.

2.2.3.7 Impure Oxide Feed Preparation

Participants: LLNL and WSRC

Summary of Progress

- Effort continued toward clearing glove box space for this instrumentation.
- WSRC recently was given the responsibility for development of the SDD for Impure Oxide Feed Preparation. The draft SDD has been completed and is in final review. This task will be completed in February 2001.
- This task has been terminated in FY01.

Cost Performance

No significant cost variance.

Schedule Performance

Milestone 2.2.3.7/FY01/a, *Provide Draft SDD*, was due 12/31/00. Completion of this milestone will be delayed due to limited resource availability in completing the overall project SDD package. The delay is not likely to affect the overall project schedule because the two independent reviews and start of preliminary design will be delayed until FY 2002 due to budget reductions announced in December.

Issues and Risk

None.

2.2.3.8 Material Characterization

Participants: LLNL and WSRC

Summary of Progress

- Plant Engineering/Labor-Only personnel continued installation work on the fume hood.
- Completed fabrication and a facility work permit for the argon gas system penetration of the RMA exterior wall.
- A USQ Screening addressing the addition of all the material characterization support equipment (fume hood, ventilation ducts, and HEPA housings) to Room 1006 has been approved by the facility. This clears the way for the facility to complete the air balance of Increment 3.
- Facility approval of the seismic evaluation was obtained for installation of the laser ablation system and components to WS 0604. This clears the way for a work permit for the hot-break needed to complete this task.
- A facility work permit was obtained and work begun on installation of the replacement chiller for the existing ICP-MS in WS 0604. The replacement chiller is needed in order to make space in the glove box for the laser ablation system.

Cost Performance

This task is over spent by \$37,201 (20%) at LLNL because January funding was reduced to the level of the December overage. Work continued under other LLNL weapons program funding sources.

No significant cost variance at WSRC.

Schedule Performance

None.

Issues and Risk

WSRC work will continue on this task but LLNL budget for equipment development and testing has been eliminated.

2.2.3.9 Material Control and Accountability

Participant: WSRC

Summary of Progress

The MC&A SDD has been modified to reflect the scope change to a 13 MT throughput facility. Comments from LLNL have been incorporated in the final draft. The edit and review process has required more effort than anticipated in August when the schedule was established. The SDD will be issued in February 2001.

Cost Performance

No significant cost variance.

Schedule Performance

No significant schedule variance.

Issues and Risk

None.

2.2.3.10 In-Process Storage Vault

Participant: WSRC

Summary of Progress

The SDD has been modified to reflect the scope change to a 13 MT throughput. Comments from LLNL have been received and incorporated in the final draft. The edit and review process has required more effort than anticipated in August when the schedule was established. The SDD will be issued in February 2001.

Cost Performance

No significant cost variance.

Schedule Performance

Milestone 2.2.3.10/FY01/a, *Provide Draft SDD*, was due 12/31/00. Completion of this milestone will be delayed due to limited resource availability in completing the overall project SDD package. The delay is not likely to affect the overall project schedule because the two independent reviews and start of preliminary design will be delayed until FY 2002 due to budget reductions announced in December.

Issues and Risk

None.

2.2.4 First-Stage Immobilization Process and Equipment Development

2.2.4.1 Ceramic Feed Blending and Batching

Participant: WSRC

Summary of Progress

- The FY 2001 funding for this task was reduced. The blender testing is therefore being postponed until FY 2002. WSRC asked COGEMA for a blender testing quote that will be valid until December 2001, but the COGEMA initial response was that they couldn't hold a price quote that long. WSRC will therefore prepare the procurement package so it is ready to be reinstated late in FY 2001 for placement early in FY 2002.
- The SDD has been modified to reflect the scope change to a 13 MT throughput. Revision D of the SDD was issued in January.

Cost Performance

No significant cost variance.

Schedule Performance

- Milestone 2.2.4.1/FY01/a, *Provide Draft SDD*, was due 12/31/00. Revision D of the SDD was issued in January 2001, thereby completing this milestone commitment. The delay will not impact the overall project schedule.
- The milestone 2.2.4.1/FY01/b, *Complete Blender Test At Vendor*, will be delayed until FY 2002 due to funding reductions in the Pu Immobilization Program.

Issues and Risk

The blender testing procurement will be delayed if the procurement package can not be reinstated later in FY 2001. A new procurement package will take months to place. Delaying feed material blender testing in FY02 will eliminate any recovery time from problems prior to PIP design start.

2.2.4.2 Ceramic Process and Equipment Development and Testing

2.2.4.2.1 Ceramic Process Development

Participant: LLNL

Summary of Progress

- Impurity testing with full-size pucks continued at LLNL. The focus for the month was to try to determine the differences in sintering behavior between granulated powder and direct feed powder for compositions containing impurities.
- Scanning Electron Microscopy (SEM) results for the attritor mix studies with uranium were returned from Sandia. The intent of the studies was to determine the minimum mix time for feed powder that has to be both milled and mixed, as is the case with the hafnium-cerium-uranium baseline

formulation. Little difference was seen between the phases formed in the pucks from each of the different mixing times. However, there was a slight difference in phase composition and distribution for the 1-minute mix versus the 3 and 5-minute mix pucks. All other results (particle size distribution of the milled powder and density and X-ray diffraction of the pucks) showed little variation. The results of this testing will be documented so a baseline mill/mix time can be established for the PuCTF runs.

Cost Performance

No significant cost variance.

Schedule Performance

None.

Issues and Risk

The biggest unknown in the process development area remains the plant-sintering schedule needed to minimize the number of plant furnaces. Work is proceeding at LLNL with the binder burnout furnace and at Clemson with the plant-prototypical size furnace to resolve this issue.

2.2.4.2.2 Pu Ceramic Test Facility (PuCTF)

Participants: LLNL and WSRC

Summary of Progress

- Installation of the PuCTF continues. The attritor glovebox and bases were assembled and attached to the granulator glovebox.
- The new Puck Measuring Station electronic box has been designed. Component detail designs have been completed and parts are currently being fabricated. All station components should be ready for assembly by mid-February.
- The Supervisory Control System work continued with integration with the Hopper Transport Control Program using the CTC Controller network driver.

Cost Performance

No significant cost variance.

Schedule Performance

No significant schedule variance.

Issues and Risk

Accomplishing work on a timely basis in The Plutonium Facility remains a concern. Access to the building and availability of the crafts to do the work continue to be issues.

2.2.4.2.3 Ceramic Prototype Test Facility (CPTF)

Participants: WSRC and Clemson

Summary of Progress

- Two additional fully-integrated furnace runs using annular space cooling air, purge air, water cooling, and the exhaust gas system ventilation were performed. The stack of four walled heavy trays was used for both of the runs. During one of the tests, the tray stack was elevated off the door to determine if this would improve heating of the lower trays by reducing thermal conductivity between the tray stack and the door and by raising the trays higher in the furnace chamber. Other variables evaluated during the tests included covering the top tray to minimize airflow over the top pucks and controlling leakage air into the furnace during cooling. One of the variables tested for controlling leakage air was to remove the bottom annular space access panels, which was intended to minimize the amount of air transferred into the furnace cavity through the bottom door. Initial results showed both of these changes had a positive effect on improving temperature distribution through the tray stack. The effects of these variables on the puck and tray integrity and cycle time will continue to be investigated.
- The Clemson Environmental Technologies Laboratory (CETL) has been awarded a DOE-SR cooperative agreement for the design, fabrication, and construction services of the CPTF. The Scope of Work includes facility modifications/additions necessary to install full-scale equipment associated with first stage immobilization. A kick-off meeting was held with CETL, Clemson University Facility personnel, and the A&E, to discuss the equipment to be installed and the modifications necessary. It is anticipated that the actual contract to the A&E will be let in February. Design will be completed in March, and construction will begin shortly thereafter.
- The Task Technical and QA Plan for the CPTF, which was updated to reflect the changes in scope and personnel roles and responsibilities, has been approved and will be issued in February. Included in the changes are the controls to be used for experiments to support repository qualification and the plant design (FDD and SDD related).
- The delivery for the HSA-20 attritor has been slightly delayed until mid-February. This will not impact any of the CPTF milestones.
- The specifications for the granulator have been issued and a kickoff meeting will be held with the vendor. The delivery date for the granulator is the summer of 2001.
- The assembly drawings for the press have been reviewed and approved. The press has been released for fabrication. An additional procurement for upgrades to the press, including the dust control system and direct feed modification, has been transmitted to CETL.
- New four wall trays have been ordered with shorter sidewalls to permit an overall shorter stacked assembly of furnace trays. The new trays, once delivered to SRS, will be shipped to a second vendor for application of a chemical barrier to minimize puck/tray interactions.
- The process development work with the baseline hafnium-cerium-cerium composition has been completed for the direct fabrication process. The feed

preparation parameters, binder composition, compaction pressure, compaction rate, die design, sintering rate, hold times, and purge rates have been optimized to consistently produce crack-free pucks on a lab-scale. Process limits for the critical processing variables have been established. Some of these processing conditions will need to be adjusted for the full-size production equipment. Tests will be started next month to evaluate the effects of impurities on the puck quality and to determine if the process conditions can be adjusted to minimize the detrimental effects of impurities. Pucks using the baseline hafnium-cerium-uranium composition and the direct-feed process will be made at LLNL using feed supplied from CETL. In preparation for these activities, surrogate powder and the laboratory procedure have been shipped to LLNL. This work is being done to develop a baseline in advance of Hf-Ce-U testing of the direct fabrication process.

- 2-D analysis was used to determine if the puck-handling robot could acquire and palletize a green puck with the new CPTF press design (platen raised to accommodate direct feed) and the existing design of the stacker/unstacker (SUS). The major change in the press design was that the puck-eject height exceeded the working envelope of the robot. By repositioning of the robot, press and SUS, analyses showed the tasks could be performed within the working envelope of the robot. The puck handling robot mockup was modified to the new configuration and the robot successfully acquired a green puck from the press platen position and successfully reached into the SUS to place a puck in the furthest corner of the furnace tray. The changes in positioning are being incorporated into the CPTF layout.

Cost Performance

No significant cost variance.

Schedule Performance

No significant schedule variance.

Issues and Risk

- The furnace cycle time continues to be the biggest unknown. Recent test results have been encouraging in reducing the cycle time. However, optimization of the furnace heating/cooling rate and other operating parameters must consider the impacts to the furnace components, sintering furniture, and pucks. Testing in the CPTF prototype furnace will continue to provide insight into the parameters affecting the furnace cycle time, including whether puck integrity is the limiting factor.
- Changes to the existing furnace tray configuration or material could impact the overall CPTF schedule if the design of the tray stacker is affected.

2.2.4.3 Puck NDE/MC&A for Process Control and SNM Accountability

Participants: LLNL and WSRC

Summary of Progress

The prototype x-ray diffraction system was received at WSRC and installation in the laboratory completed. Acceptance testing of the unit, however, has indicated an alignment problem. The problem has been narrowed to

misalignment of the sample stage or an eccentric goniometer. The sample stage misalignment should be relatively easy to repair. However, repair of the goniometer would require shipment back to the vendor in Germany and a potential several month delay.

Cost Performance

No significant cost variance.

Schedule Performance

- The degree of complexity of the XRD unit alignment problem could significantly impact testing.
- Although the x-ray diffraction unit has been installed, the intent of milestone 2.2.4.3/FY01/b, *WSRC NDE XRD plant prototype test system installed*, was not met in January, 2001 due to the alignment issue with the instrument. The delay of this milestone will not impact the project schedule, however, due to delay in generation of SDDs and subsequent plant design.

Issues and Risk

None.

2.2.4.4 Recycle of Unacceptable Materials

Participant: LLNL

Summary of Progress

This task is no longer funded for FY01.

Cost Performance

No significant cost variance.

Schedule Performance

No significant schedule variance.

Issues and Risk

None.

2.2.4.5 Can Loading

Participant: WSRC

Summary of Progress

- WSRC revised the can loading task plan to reflect the FY 2001 budget changes. The remaining can loading D&T milestone for FY 2001 is to demonstrate loading of variable height pucks by 8/30/01.
- WSRC received and installed a vacuum sensor that will be tested as a method to allow pick up of different height pucks. As the can loading robot moves down to grab a puck, the vacuum sensor will monitor the pressure in the puck lifting vacuum line. When the tool reaches the puck, the vacuum

sensor will indicate the pucks presence on the tool and the robot controller can then use the current robot position to pick up the puck. This information can also be used to place the puck on a scale and measuring station before placing the puck in the can.

Cost Performance

No significant cost variance.

Schedule Performance

Milestone 2.2.4.5/FY01/a, *Provide Draft SDD*, was due 12/31/00. Completion of this milestone will be delayed due to limited resource availability in completing the overall project SDD package. The delay is not likely to affect the overall project schedule because the two independent reviews and start of preliminary design will be delayed until FY 2002 due to budget reductions announced in December.

Issues and Risk

None.

2.2.4.6 Can MC&A

Participant: WSRC

Summary of Progress

- The MC&A SDD has been modified to reflect the scope change to a 13 MT throughput facility. Comments from LLNL have been incorporated in the final draft. The edit and review process has required more effort than anticipated in August when the schedule was established. The SDD will be issued in February 2001.
- Testing of the calorimeter continues. Tests to date indicate a longer cycle time than desired. This issue could require the need for additional calorimeters in the PIP facility or upgrades to the equipment to reduce cycle times.

Cost Performance

This task is under spent by \$ 947 (11%) at WSRC due to less calorimeter testing than was originally anticipated. Testing time is expected to increase in February. This cost variance will not adversely impact the project.

Schedule Performance

No significant schedule variance.

Issues and Risk

Preliminary testing indicates that calorimeter cycle time is longer than desired.

2.2.5 Second-Stage Immobilization Process and Equipment Development

2.2.5.1 Can-in-Canister System

2.2.5.1.1 Can-in-Canister Design and Assembly

Participant: WSRC

Summary of Progress

- The Can-in-Canister SDD has been modified to reflect the scope change to a 13 MT throughput. Revision E of the SDD was issued in January.
- Preparations continue for the installation of the canister loading arm in Building 773-50A.

Cost Performance

No significant cost variance.

Schedule Performance

Milestone 2.2.5.1.1/FY01/a, *Provide Draft SDD*, was due 12/31/00. Revision E of the SDD was issued in January 2001, thereby completing this milestone commitment. The delay will not impact the overall project schedule.

Issues and Risk

None.

2.2.5.1.2 Canister Pour Analysis and Testing

Participants: LLNL and WSRC

Summary of Progress

- The Phase 2 Cold Pour Test report was issued, satisfying the 12/31/00 milestone, *Complete Phase 2 Cold Pour Test Report*.
- Work continued on the Cold Pour Test Task Data File. This Task File will be used mainly to provide Phase 2 test quality assurance documentation.
- The top weld on the second proliferation canister filled during the Phase 2 Test was approved by SRS Receipt and Inspection personnel.

Cost Performance

This task is under spent by \$38,374 (35%) due to anticipated undercharge from SCUREF. This cost variance will be corrected next month and will not adversely impact the project.

Schedule Performance

No significant schedule variance.

Issues and Risk

None.

2.2.5.1.3 Can/Magazine Storage Vault

Participant: WSRC

Summary of Progress

The Can/Magazine Storage Vault information in the Can-In-Canister SDD was revised for the 13-MT throughput of the Plutonium Immobilization Plant. Revision E of the SDD was issued in January.

Cost Performance

No significant cost variance.

Schedule Performance

No significant schedule variance.

Issues and Risk

None.

2.2.5.2 Canister Transport System

Participant: WSRC

Summary of Progress

- The SDD has been modified to reflect the scope change to a 13-MT throughput. Revision E of the SDD was issued in January.
- No further activity is anticipated for this task in FY 2001.

Cost Performance

No significant cost variance.

Schedule Performance

No significant schedule variance.

Issues and Risk

None.

2.2.5.3 DWPF Receipt and Handling

Participant: WSRC

Summary of Progress

The System Design Description for DWPF Receiving and Handling was revised to reflect the 13-MT throughput of the Plutonium Immobilization Plant. Revision E of the SDD was issued in January.

Cost Performance

No significant cost variance.

Schedule Performance

No significant schedule variance.

Issues and Risk

None.

2.3 D&T for Form Qualification

2.3.1 Form Performance Testing and Dissolution Modeling

2.3.1.1 Radiation-Damage Sample Synthesis and Characterization

Participant: PNNL

Summary of Progress

- Analyses of the XRD results are nearly complete for the specimens that have been stored at room temperature. The latest results do not alter the conclusions reached last month (i.e., that pyrochlore is susceptible to radiation damage. Damage also occurs to the zirconolite phase, but the damage does not appear to be as severe).
- The next characterization awaits reviews of our work procedures. A review of the procedures is necessary to make sure that we have minimized the chances for personnel exposure and potential spread of contamination. It is estimated that the next characterization may be delayed by two months.
- In our MCC short-term static leach tests of the specimens stored at ambient, we found little or no change compared to the initial characterization in uranium release for the ^{238}Pu - pyrochlore ($4.5 \cdot 10^{-3}$ [Dec 2000] vs $4.6 \cdot 10^{-3}$ g/m² [Dec 1999]), coarse pyrochlore ($1.4 \cdot 10^{-3}$ vs $3.7 \cdot 10^{-3}$ g/m²), and pyrochlore-rich baseline ($2.5 \cdot 10^{-2}$ vs $2.6 \cdot 10^{-2}$ g/m²). The ^{238}Pu - baseline with impurities showed a reduction in uranium release (not measurable vs $3.1 \cdot 10^{-3}$ g/m²). The ceramics containing ^{238}Pu -zirconolite showed significant increases in U release with the phase pure zirconolite releasing 0.12 vs 0.031 g/m², the coarse zirconolite releasing 0.2 vs 0.03 g/m², and the zirconolite-rich baseline releasing 3 vs 0.04 g/m². This suggests that significant changes are occurring in the zirconolite rich materials.

Cost Performance

This task is within 10% of the planned cost (relative to the rebaselined budgets after accommodating the recent budget reductions.)

Schedule Performance

We are on schedule for the milestone 2.3.1.1/FY01/a (a letter report on the results from the characterization and testing of the radiation damage specimens). The delay because of the procedure review will impact the amount of data in the milestone report.

Issues and Risk

None.

2.3.1.2 Short-Term Corrosion Tests

Participant: ANL

Summary of Progress

A series of MCC-1 tests with the baseline (A0) ceramics were initiated and terminated in August. The tests were conducted at 90°C in deionized water for 1, 3, 5, 7 and 42 days using PDA-Teflon vessels. The pH values of the test leachates and blanks are between 5 and 6. Solutions from these tests have been analyzed. A quick examination of these data show that the background is very low in MCC-1 tests conducted in Teflon vessels and that the normalized release rate, based on uranium, was about 6×10^{-4} g/(m² day). This rate is consistent with previous measurements. Due to budget reductions, no additional work will be conducted on this task for the remainder of this year. (ANL)

Cost Performance

This task is within 10% of the planned cost (relative to the rebaselined budgets after accommodating the recent budget reductions.)

Schedule Performance

Due to budget reductions, Milestone 2.3.1.2/FY01/b, *Document results of short-term testing of the ceramic*, has been deleted.

Issues and Risk

None.

2.3.1.3 Long-Term Corrosion Tests

Participant: ANL

Summary of Progress

- A 182-day PCT-B test with the A0-LLNL ceramic, scheduled for termination in October, was terminated in November. Leachant and strip samples have been submitted for metals analysis; transmission electron microscopy analysis of the colloids sample has begun. Data from this test will be compared to data from the 98-day test with the same ceramic and to data from tests with the B3-13 impurity-bearing ceramic.
- A 728-day PCT-B test with A0-ANL was terminated in January. Leachant and strip samples have been submitted for metals analysis; transmission electron microscopy analysis of the colloids sample has begun. Data from this test will be compared to data from previous tests with the same ceramic to describe reaction progress. The reacted ceramic will be examined to determine whether the brannerite is being preferentially dissolved. Preferential dissolution of brannerite was observed during the reaction of a zirconolite-rich ceramic, and was thought to lead to increased release of Gd and Pu from that ceramic.

Cost Performance

This task is within 10% of the planned cost (relative to the rebaselined budgets after accommodating the recent budget reductions.)

Schedule Performance

Work is on schedule for delivery of milestone 2.3.1.3/FY01/a, *Document results of long-term testing of ceramic*.

Issues and Risk

None.

2.3.1.4 Integrated Corrosion Tests

Participants: ANL and PNNL

Summary of Progress

- The long-term unsaturated “drip” tests with the Hf-Pu-U baseline ceramic were scheduled to be sampled during August, but have been delayed due to laboratory modifications. Before these tests can be sampled, they must be transferred into the glovebox. This required changes in the injection system and the oven interior; these changes have been completed. These tests will be sampled in early February. Solution analyses will include pH and cation concentrations. Colloid analyses will include sequential filtration, dynamic light scattering, and TEM. Solids analyses will include SEM and TEM of the reacted particles. (ANL)
- A new oven has been designed and built in the testing glovebox. The completion of this oven will allow us to move the PCT-B tests from the existing oven, giving us the room to move the unsaturated drip tests into the glovebox. The oven is complete and is currently being tested. A revised safety review and QA documentation are being prepared. (ANL)
- Work this month focused on updating procedures and preparing for a safety review by the 325 Bldg Internal Review Committee (IRC). A pressure safety evaluation for the PUF column was an initial requirement. The stainless steel split column design was approved for use by a pressure-systems engineer. (PNNL)
- The procedure Pressurized Unsaturated Flow Test at Elevated Temperatures (G-20-PUF) was revised in preparation for IRC review. Radiological Control variances were updated with supplemental information on the ²³⁸Pu and ²³⁹Pu loading in the PUF columns. (PNNL)

Cost Performance

This task is within 10% of the planned cost at ANL and PNNL (relative to the rebaselined budgets after accommodating the recent budget reductions.)

Schedule Performance

- Due to budget reductions, Milestone 2.3.1.4/FY01/b, *Issue report on status of drip tests*, has been changed from a detailed report to a short letter report. In addition, tests with impurity ceramic will not be initiated this year. (ANL)
- We are a couple of months behind schedule for the start of the test with ²³⁸Pu-pyrochlore baseline ceramic, but the preliminary report (milestone 2.3.1.4/FY01/b) is on schedule. The duration of the tests reported on in this

report, however, will be shorter than planned, and hence the quantity of data reported on will be less.

Issues and Risk

None.

2.3.1.5 Single-Pass Flow-Through Tests

Participants: LLNL, ANL, and PNNL

Summary of Progress

- Dissolution experiments with ‘cold’ (i.e., non-radioactive) zirconolite materials over the pH interval 2-10 at 90°C are running. These experiments will yield a good basis of comparison for ²³⁹Pu- and ²³⁸Pu-doped materials. (PNNL)
- Analyses of Pu from ²³⁹Pu- and ²³⁸Pu-doped pyrochlore and pyrochlore-rich baseline ceramics are unavailable at this time. (PNNL)
- All SPFT experiments at LLNL have been terminated. The analytical results from archived SPFT solution samples were received and the data recorded. Solids were archived for later analysis. (LLNL)

Cost Performance

This task is within 10% of the planned cost at PNNL and LLNL (relative to the rebaselined budgets after accommodating the recent budget reductions.)

Schedule Performance

- PNNL is on schedule to deliver milestone 2.3.1.5/FY01/a, *Update the repository data package with results from the SPFT on radiation damage specimens and LLNL tests.*
- A draft of the LLNL FY00 milestone FY00/4.1.2, *Update SPFT report with results from longer-term testing*, is complete, and is being forwarded to the Project leader for transmission to DOE. This report was delayed due to illness and unplanned leave by personnel funded under this task in FY00.

Issues and Risk

None.

2.3.1.6 Dissolution Model Development

Participant: LLNL

Summary of Progress

- The second interim modeling report will be completed by the end of January.
- Work on the Hydrothermal Atomic Force Microscopy experiments aimed at detecting dissolution in real time has been halted.
- Due to budget reductions, no additional work will be performed in this task in FY01.

Cost Performance

This task is within 10% of the planned cost (relative to the rebaselined budgets after accommodating the recent budget reductions.)

Schedule Performance

A draft of the LLNL FY00 milestone FY00/4.1.4, *Issue final report on model development for repository PA*, is undergoing internal review. This report was delayed due to illness and unplanned leave by personnel funded under this task in FY00. The report is now expected to be completed by March 1, 2001.

Issues and Risk

None.

2.3.2 Thermodynamic Data Determination and Validation**2.3.2.1 Aqueous Solubility/Speciation Measurements**

Participants: LLNL and PNNL

Summary of Progress

There is no new work planned in this task for FY01. The only ongoing activities relate to the completion of two FY00 milestones, and the transfer of notebooks and records to QA and the records center.

Cost Performance

No costs to report. Closeout costs for this task are included in the costs for the Form Qualification and Repository Interactions Task.

Schedule Performance

This task is complete

Issues and Risks

Reconnaissance experiments conducted at PNNL in late FY00 indicated that the solubility of Hf is strongly enhanced by the presence of carbonate. This behavior was totally unexpected, and could have important implications as to the mobility of Hf (the backup neutron absorber) under repository conditions. Our current plans and funding call for termination of this task in FY01. We will reassess the appropriateness of this plan and make a recommendation as to the continuation of this task when final budgets are available. RW has been informed of these results and is looking into the potential impact on their analyses. Because Hf has been proposed as the primary neutron absorber for waste packages containing some DOE spent fuels, this result may have implications that extend beyond the Pu Immobilization Program.

2.3.2.2 Solid-Phase Enthalpy and Entropy Measurements

Participants: LLNL, UC Davis, and BYU

Summary of Progress

This task is complete.

2.3.4 Form Qualification and Repository Interactions

Participants: LLNL, WSRC, ANL, and PNNL

Summary of Progress

- Several conference calls were held in January with DOE EM and RW to discuss the latest revision of the Waste Acceptance Systems Requirements Document (WA-SRD). An additional drop test requirement was added for the IPWF. RW is to distribute another draft revision for review in the next few weeks.
- The draft Plutonium Immobilization Product Specifications (PIPS) are ready to be distributed. However, DOE EM has asked that we wait until resolution of the WA-SRD. Due to the delay in issuance of the WA-SRD a decision will be made for the path forward on issuing the PIPS.

Cost Performance

This task is within 10% of the planned cost (relative to the rebaselined budgets after accommodating the recent budget reductions.)

Schedule Performance

- Issuance of the PIPS has been delayed until issues related to new requirements on the IPWF in the latest draft version of the WA-SRD have been resolved.
- Due to budget reductions, the FY01 milestone 2.3.4/FY01/a (Issue PICP) has been deferred until FY02.

Issues and Risks

The major risk to the qualification program is the delay in issuing the PIPS and the ownership definition for the IPWF.

3 *Technology Transfer*

3.1 Preparation for Design Start: Site Operations Team

Participant: WSRC

Summary of Progress

Activity associated with preparation of design start has been terminated due to budget reductions announced in December. This activity will be delayed into FY 2002 as the design start date is rescheduled.

Cost Performance

No significant cost variance.

Schedule Performance

This task will be delayed as the design start date is rescheduled.

Issues and Risk

Budget reductions will delay the start of design and associated activities.

*Appendix A1: FY00 AOP Milestones Status
Summary for January 2001*

FY00 Milestones1/29/00

WBS	Task	Milestones	Resp. Site	Due Date	Anticipate d Comp Date	% Comp	Draft Report Complete	Final Report Complete	Status/ Comments
1.0	Program Management								
	FY99 Milestones								
1.1	Project Office	b. Complete draft project management plan	LLNL	Jan-99		100	1/31/00		PIP 00-006 Sent to MD for review
	FY00 Milestones								
1.1	Project Office	a. Provide revised integrated D&T plan	LLNL	Nov-99		100		Mar-00	PIP 00-035
1.2	QA	a. Complete management assessment rpt	LLNL	Sep-00	Sep-00	100		Sep-00	PIP 00-117LTR
		b. Complete annual audit	LLNL	Sep-00	Sep-00	100		Sep-00	PIP 00-115LTR
1.3	Document Control	a. Provide DCC annual report	LLNL	Sep-00	Dec-00	100		12/12/01	PIP 00-154
2.0	Technical Support								
	FY98 Milestones								
2.1	Feed Materials Definition and Characterization	b. Update the feed materials characterization report	LLNL	Feb-99		100		11/4/99	PIP 99-148
	FY99 Milestones								
2.1	Feed Materials Characterization and Blending	a. Update feed materials blending strategy report	LLNL	Mar-99		100		12/8/99	PIP 99-170
		b. Complete cost-benefit analysis for sampling plan	LLNL	Sep-99		100	Jan-00	6/30/00	PIP 00-002
		c. Update the feed materials characterization report	LLNL	Sep-99		100		11/4/99	PIP 99-148
2.4	Material Transport System	a. Complete material transport system plan	WSRC	Sep-99		100	Jan-00	7/28/00	PIP 00-092LTR
	FY00 Milestones								
2.1	Feed Materials Characterization and Blending	1 Revised draft of the feed materials characterization report	LLNL	May-00	Mar-01	90	Jan-01		Milestone will be assessment of RFETS inventory and was delayed pending L. Gray return.
2.3	Technical Integration	1 Draft Facility Design Description	LLNL	Jul-00		100	Jul-00	7/21/00	PIP 00-067LTR
		2 Draft System Design Description for Material Transport	WSRC	Jul-00	30-Sep	100		9/15/00	PIP 00-092/PIP 00-056LTR
		3 Waste Handling practices evaluation	WSRC	Mar-00		100	2/30/00	3/30/00	PIP 00-091
		4 Draft System Design Description for Waste Handling	WSRC	Apr-00	09/30/00	100	30-Sep	9/15/00	PIP 00-057LTR
3.0	Immobilized Form Development								
	FY99 Milestones								
3.4	Process Control Model Development	a. Provide interim data summary report	LLNL& ANSTO	Jul-99	06/30/00	100		7/20/00	PIP 00-094
		b. 1. Complete equilibrium phase diagram and 2. impurity studies sample fabrications	LLNL& ANSTO	Sep-99	03/15/00	100		2/16/00	PIP 00-016
	FY00 Milestones								
3.1	Basic Formulation and Process Parameters?	1 Provide formulation update for the SDD	LLNL	Dec-99	08/31/00	100		11/20/00	PIP 00-141
3.2	Form Qualification Samples and Data	1 Provide supplementary report in support of the licensing application	LLNL	Jul-00	08/31/00	100		11/20/00	PIP 00-141
3.3	Product Control Model Development	1 Provide PCM methodology for preliminary testing	LLNL	Dec-99	02/29/00	100		2/28/00	PIP 00-036

FY00 Milestones1/29/00

WBS	Task	Milestones	Resp. Site	Due Date	Anticipated Comp Date	% Comp	Draft Report Complete	Final Report Complete	Status/ Comments
4.0	Performance Testing & Qualification for Repository								
	FY99 Milestones								
4.1	Form Performance Testing & Dissolution Modeling	e. Issue data package on SPFT results for repository license application	LLNL	Jun-99		100		1/19/00	PIP 00-003
		f. Issue interim report on model development for repository license application	LLNL	Jun-99		100		1/19/00	PIP 00-003
4.3	Form Qualification and Repository Interactions	b. Issue Rev0 of PIPS	WSRC	Aug-99		100		1/19/00	PIP 00-004
	FY00 Milestones								
4.1	Form Performance Testing & Dissolution Modeling	1 Document baseline characteristics of 238Pu ceramic samples	PNNL	Apr-00	06/30/00	100	5/1/00	6/2/00	PIP 00-081
		2 Update SPFT report with results from longer-term testing	LLNL	May-00	02/01/01	99	8/10/00		Manuscript in final review
		3 Document results of short-term testing of the ceramic	ANL	Jun-00	06/30/00	100	5/8/00	6/30/00	PIP-00-096
		4 Issue final report on model development for repository PA	LLNL	Jun-00	02/01/01	95			Manuscript in review
		5 Document results of long-term testing of the ceramic	ANL	Aug-00	09/29/00	100	8/16/00	Sep-00	PIP 00-120LTR 11/11/00
		6 Issue report on status of drip tests and VHT interaction tests	ANL	Aug-00	08/15/00	100	7/26/00	9/15/00	PIP 00-109LTR
		7 Letter report on status of 238PU radiation damage effects	PNNL	Sep-00	09/01/00	100	8/15/00	9/15/00	PIP 00-110LTR
4.2	Thermodynamic Data Determination and Validation								
		2 Issue final report on Ti solubility and speciation	LLNL	Aug-00	10/15/00	100	10/30/00	11/22/00	PIP-00-148
		3 Issue final report on Hf solubility and speciation	PNNL	Aug-00	08/10/00	100	8/20/00	9/15/00	PIP 00-108
		4 Issue report on Pu and Gd sorption on colloids	LLNL	Aug-00	10/20/00	100	10/15/00	11/30/00	PIP-00-156
4.3	Form Qualifications and Repository Interactions	1 Provide initial draft of PICP	WSRC	Sep-00	10/20/00	100	11/21/00	11/21/00	PIP-00-149
		2 Issue integrated data report for repository licensing application	LLNL	Aug-00	10/31/00	100	1/31/01	1/25/01	PIP-01-004
5.0	Plutonium Conversion Process/Equipment Development								
	FY99 Milestones								
5.4	Material Unpackaging and Sorting	d. Place orders for opening equipment	WSRC	Sep-99		100		11/22/99	PIP 99-161
5.5	Metal Fuel Feed Preparation	a. Procure mechanical systems and electronic controls	LLNL	Mar-99		100			PIP 99-168
5.6	Metal Conversion	a. Perform feasibility demonstrations on Pu-Al alloys	LLNL	Jun-99	08/15/00	90	12/15/00		PIP 00-151
		b. Procure remaining mechanical systems and electronics	LLNL	Jun-99		100		11/23/99	PIP 99-169
		d. Prepare area in Bldg 332 at LLNL	LLNL	Sep-99		100		1/11/00	PIP 99-177
5.8	Materials Characterization	a. Initiate design of prototype materials characterization system	LLNL & WSRC	Jan-99		100		11/22/99	PIP 99-157

FY00 Milestones1/29/00

WBS	Task	Milestones	Resp. Site	Due Date	Anticipated Comp Date	% Comp	Draft Report Complete	Final Report Complete	Status/ Comments
	FY00 Milestones								
5.1	Material Receipt and Storage	1 Provide draft preliminary SDD for plant design	WSRC	Apr-00	07/28/00	100	3/24/00	6/27/00	PIP-00-041
5.2	Oxide Fuel Feed Preparation	1 Provide draft preliminary SDD	WSRC	Apr-00	09/30/00	100		9/19/00	PIP 00-114LTR 9/25/00
		2 Initiate test of key system components	WSRC	Jul-00		100		10/11/00	PIP 00-123LTR
5.3	Material Size Reduction	1 Evaluate industry capabilities and write report	LLNL	Dec-99	06/30/00	70	N/A	N/A	Summary of work was incorporated into SDD. See PIP-00-042 LTR 8/30/00
		2 Provide draft preliminary SDD	LLNL	Apr-00	06/30/00	100			
		3 Produce oxide powder for PuCTF	LLNL	Sep-00	N/A	N/A	N/A	N/A	<i>Task was never started because task was cancelled.</i>
5.4	Material Unpackaging and Sorting	1 Draft preliminary SDD	WSRC	Apr-00	07/28/00	100	May-00		PIP-00-043 LTR 8/30/00
		2 Complete testing of opening equipment	WSRC	Sep-00	09/30/00	80		9/19/00	PIP 00-118LTR 10/11/2000
5.5	Metal Fuel Feed Preparation	1 Complete integrated system prototype assembly	LLNL	Dec-99	07/28/00	95	2/11/00		Work stopped and was documented in SDD. See 5.5.2
		2 Provide draft preliminary SDD	LLNL	Apr-00	07/28/00	95	2/11/00	10/3/00	PIP-00-021
		3 Move system into Radiation Material Management Area	LLNL	Jul-00	N/A	N/A	N/A	N/A	<i>Task was never started because task was cancelled.</i>
		4 Initiate hot tests	LLNL	Aug-00	N/A	N/A	N/A	N/A	<i>Task was never started because task was cancelled.</i>
5.6	Metal Conversion	1 Complete integrated system assembly	LLNL	Nov-99	08/15/00	100			PIP-00-099
		2 Provide draft preliminary SDD	LLNL	Apr-00		85		28-Feb	<i>Milestone moved into FY01 AOP</i>
		3 Move system into Radiation Material Management Area	LLNL	Jul-00				28-Feb	<i>Milestone moved into FY01 AOP</i>
		4 Initiate hot tests	LLNL	Aug-00				14-Jun	<i>Milestone moved into FY01 AOP</i>
5.7	Impure Oxide Feed Preparation	1 Obtain and install RIAR salt washer	LLNL	Mar-00	10/15/00	50		30-Mar	This effort has been cancelled because of lack of funding. The milestones have been suspended until funding is available.
		2 Provide draft preliminary SDD	LLNL	Apr-00	07/15/00	95			PIP-00-045 LTR 8/30/00
		3 Perform feasibility demonstration	LLNL	Sep-00				30-May	<i>Milestone moved into FY01 AOP</i>
5.8	Materials Characterization	1 Procure/receive instrumentation	LLNL	Jan-00	08/30/00	100			PIP-00-134
		2 Provide draft preliminary SDD	LLNL	Apr-00	07/28/00	100		Jul-00	PIP-00-090
		3 Instrumentation installation complete	LLNL	Jun-00				06/30/01	<i>Milestone moved into FY01 AOP</i>
5.9	Material Control and Accountability	1 Develop and evaluate equipment options	WSRC	Jan-00	06/28/00	100		Jun-00	Complete. in SDD, PIP-00-055
		2 Provide draft preliminary SDD	WSRC	Apr-00	06/28/00	100		Jun-00	Complete. in SDD, PIP-00-055
5.10	In-process Storage Vault	1 Provide draft preliminary SDD	WSRC	Apr-00	06/28/00	100		6/29/00	PIP-00-046
		2 Provide SDD	WSRC	Sep-00	12/01/00	100			PIP-00-046

FY00 Milestones1/29/00

[illegible]

FY00 Milestones1/29/00

[illegible]

*Appendix A2: FY01 AOP Milestones Status
Summary for January 2001*

FY01 Milestones 1/29/00

WBS	Task	DOE/MD Milestone #	Milestones	Resp. Site	Due Date	Anticipated Comp Date	% Comp	Draft Report Complete	Final Report Complete	Status/ Comments
1 Pre-Design Phase Activities										
1.2	Design-Only Conceptual Design Report	5.1.2/FY01/a	Issue DOCDR, Rev. 3	LLNL	Nov-00	Feb-01	99	Oct-00		Awaiting DOE sign-off.
2.1 Program Management										
2.1.1	Project Office	2.1.1/FY01/a	Update D&T Plan	LLNL	Jun-01					
		2.1.1/FY01/b	Update PMP FY01	LLNL	Sep-01					
2.1.2	Quality Assurance	2.1.2/FY01/a	D&T QA program qualified	LLNL	Nov-00	Dec-00	100	8-Dec		PIP-00-153LTR
		2.1.2/FY01/b	TPO completes Management Assessment Report	LLNL	Sep-01	Sep-01	0			Scheduled for Aug-01
		2.1.2/FY01/c	TPO completes annual audit	LLNL	Sep-01	Sep-01	25			
2.1.3	Document Control	2.1.3/FY01/a	Provide DCC Annual Operations Report	LLNL	Sep-01	Sep-01				
2.2 D&T Plan for Design										
2.2.1 Technical Support and Integration										
2.2.1.1	Feed Materials Characterization and Blending	2.2.1.1/FY01/a	Update the feed materials characterization report	WSRC	Sep-01	Sep-01	25			
2.2.1.2	Proliferation Resistance	2.2.1.2/FY01/a	Report results from CIC review proliferation resistance assessment	LLNL	Sep-01					
2.2.1.3	System Integration and Cross-cutting Functions	2.2.1.3/FY01/a	Provide draft SDDs to DOE	LLNL	Dec-00	Feb-01	99			Draft completed.
		2.2.1.3/FY01/b	Provide FDD to DOE	LLNL	Jun-01					
		2.2.1.3/FY01/c	Provide integration SDDs to DOE	LLNL	Jun-01					
2.2.1.4	Material Transport System	2.2.1.4/FY01/a	Provide draft (Material Transport) SDD	WSRC	Dec-00	Feb-01	99			Draft completed.
		2.2.1.4/FY01/b	Provide (Material Transport) SDD	WSRC	Jun-01	Jun-01	0			
2.2.1.5	Waste Handling System	2.2.1.5/FY01/a	Complete Waste Generation Report	WSRC	Dec-00	Feb-01	99			Delayed to complete 13MT SDD
		2.2.1.5/FY01/b	Provide (Waste Handling) SDD	WSRC	Jun-01	Jun-01	0			
2.2.2 Immobilized Form Development										
2.2.2.3	Process Control Model Development	2.2.2.3/FY01/a	Provide preliminary PCM and summary of testing	LLNL	Mar-01	Mar-01	55			
2.2.3 Plutonium Conversion Process and Equipment Development										
2.2.3.1	Material Receipt and Storage	2.2.3.1/FY01/a	Provide draft SDD	WSRC	Dec-00	Jan-01	100			PIP-00-041
		2.2.3.1/FY01/b	Provide SDD	WSRC	Jun-01	Jun-01	0			
2.2.3.3	Material Size Reduction	2.2.3.3/FY01/a	Provide draft SDD	LLNL	Dec-00	Feb-01	95			WSRC developing SDD. Limited resources will delay draft.
		2.2.3.3/FY01/b	Provide SDD	LLNL	Jun-01					
		2.2.3.3/FY01/c	Produce oxide powder for PuCTF	LLNL	Sep-01					
2.2.3.4	Material Unpackaging and Sorting	2.2.3.4/FY01/a	Provide draft SDD	WSRC	Dec-00	Feb-01	99			Draft completed.
		2.2.3.4/FY01/b	Complete concept for material transfer	WSRC	Mar-01	Jul-01	0			Delay due to funding reduction.
		2.2.3.4/FY01/c	Provide SDD	WSRC	Jun-01	Apr-02	0			Delayed until FY02 due to funding reduction.

FY01 Milestones 1/29/00

WBS	Task	DOE/MD Milestone #	Milestones	Resp. Site	Due Date	Anticipated Comp Date	% Comp	Draft Report Complete	Final Report Complete	Status/ Comments
2.2.3.6	Metal Conversion	2.2.3.6/FY01/a	Move system into RMMA	LLNL	Oct-00	12/30/00	95		29-Dec	PIP-00-152
		2.2.3.6/FY01/b	Provide draft SDD	LLNL	Dec-00	4/30/01	85		28-Feb	Preliminary draft in preparation
		2.2.3.6/FY01/c	Initiate hot tests	LLNL	Feb-01				1-Apr	Hardware is in Pu building. Cold activation is underway
		2.2.3.6/FY01/d	Complete initial hot tests	LLNL	Jul-01				7/31/01	
		2.2.3.6/FY01/e	Provide SDD	LLNL	Jun-01					
2.2.3.7	Impure Oxide Feed Preparation	2.2.3.7/FY01/a	Provide draft SDD	LLNL	Dec-00	Feb-01	95			WSRC developing SDD. Limited resources will delay draft.
		2.2.3.7/FY01/b	Perform feasibility demonstration	LLNL	Feb-01					This effort has been cancelled because of lack of funding. The milestones have been suspended until funding is available.
		2.2.3.7/FY01/c	Provide SDD	LLNL	Jun-01					
2.2.3.8	Materials Characterization	2.2.3.8/FY01/a	Complete installation of equipment	LLNL & WSRC	Dec-00		30			This effort has been cancelled because of lack of funding. The milestones have been suspended until funding is available.
		2.2.3.8/FY01/b	Provide input to Analytical SDD	LLNL	Apr-01					
2.2.3.9	Material Control and Accountability	2.2.3.9/FY01/a	Provide input to MC&A SDD	WSRC	Apr-01	Apr-01	0			
2.2.3.10	In-process Storage Vault	2.2.3.10/FY01/a	Provide draft SDD	WSRC	Dec-00	Feb-01	99			Draft completed.
		2.2.3.10/FY01/b	Provide SDD	WSRC	Jun-01	Jun-01	0			
2.2.4 First-Stage Immobilization Process and Equipment Development										
2.2.4.1	Ceramic Feed Blending and Packaging	2.2.4.1/FY01/a	Provide draft blending SDD	WSRC	Dec-00	Feb-01	99			Draft completed.
		2.2.4.1/FY01/b	Complete blender test at vendor	WSRC	Mar-01	Apr-02	10			Delayed until FY02 due to funding
		2.2.4.1/FY01/c	Provide blending SDD	WSRC	Jun-01	Apr-02	0			Delayed until FY02 due to funding
2.2.4.2.1	Ceramic Process Development	2.2.4.2.1/FY01/a	Provide draft SDD for ceramification system	LLNL	Dec-00	30-Mar-01	90			In progress.
		2.2.4.2.1/FY01/b	Provide SDD, Rev. 0	LLNL	Jul-01					Deferred to FY 02.
2.2.4.2.2	Plutonium Ceramic Test Facility (PuCTF)	2.2.4.2.2/FY01/a	PuCTF installation complete in LLNL Pu facility	LLNL	Feb-01	28-Feb-01	100			Mechanical Installation completed
		2.2.4.2.2/FY01/b	PuCTF operational with plutonium	LLNL	Jun-01	22-Aug-01	0			Dependent on installation completion and ORR approval by LLNL and/or DOE
		2.2.4.2.2/FY01/c	PuCTF operation validated with plutonium	LLNL	Sep-01	2-Oct-01	0			
2.2.4.2.3	Ceramification Prototype Test Facility (CPTF)	2.2.4.2.3/FY01/a	CPTF design completed	WSRC	Dec-00	Jan-01	100			PIP-01-001
		2.2.4.2.3/FY01/b	Provide input for Ceramification SDD	WSRC	Apr-01	Mar-02	20			Delayed due to budget cuts.
		2.2.4.2.3/FY01/c	Large furnace, press and mill installed and tested	WSRC	Jun-01	Sep-01	40			Furnace installed and testing underway. Press and mill being fabricated.
2.2.4.3	Puck NDE/MC&A for Process Control and SNM Accountability	2.2.4.3/FY01/a	WSRC NDE XRD plant prototype test system installed	WSRC	Jan-01	Mar-01	95			Installation completed. Alignment problem being resolved with vendor.
		2.2.4.3/FY01/b	PuCTF NDE System installed in LLNL Pu facility	LLNL	Mar-01		30			Deferred to FY02.
		2.2.4.3/FY01/c	Provide input to Analytical SDD	LLNL & WSRC	Apr-01					Deferred to FY02.
		2.2.4.3/FY01/d	PuCTF NDE Gamma spec validation with Pu	LLNL	Sep-01					

FY01 Milestones 1/29/00

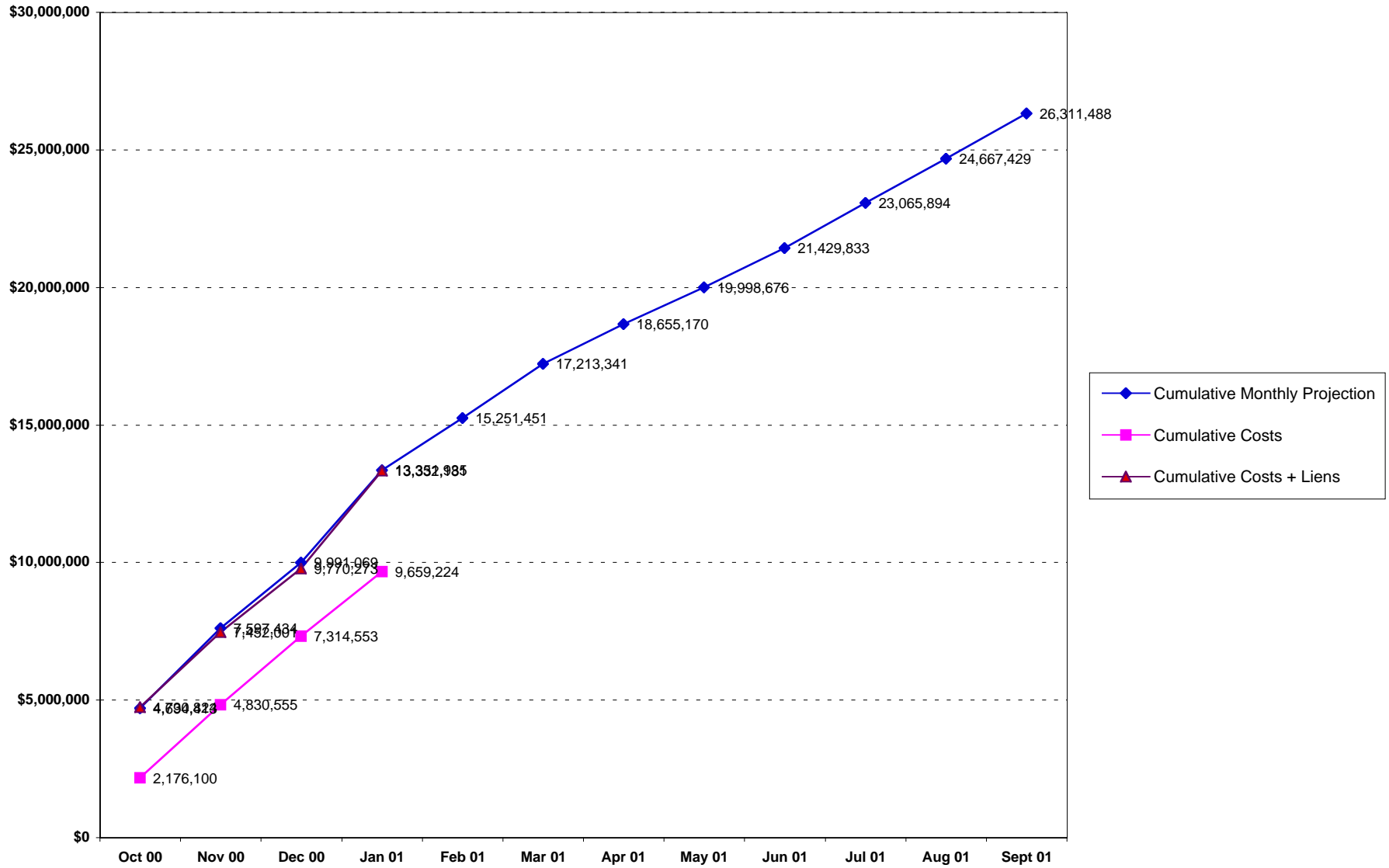
WBS	Task	DOE/MD Milestone #	Milestones	Resp. Site	Due Date	Anticipated Comp Date	% Comp	Draft Report Complete	Final Report Complete	Status/ Comments
		2.2.4.3/FY01/e	WSRC NDE XRD testing complete	WSRC	Sep-01	09/30/01	10			XRD testing with existing XRD units underway will commence with prototype unit after installation is completed.
2.2.4.5	Can Loading	2.2.4.5/FY01/a	Provide draft SDD	WSRC	Dec-00	Feb-01	99			Incorporating comments.
		2.2.4.5/FY01/b	Provide SDD	WSRC	Jun-01	Mar-02	0			Postponed due to budget cut.
		2.2.4.5/FY01/c	Demonstrate loading variable height pucks	WSRC	Jul-01	Aug-01	30			Milestone changed due to funding cut.
2.2.4.6	Can MC&A	2.2.4.6/FY01/a	Can MC&A test system procured	WSRC	Jan-01	Jan-01	100			Procurement complete.
		2.2.4.6/FY01/b	Can MC&A initial system testing (complete)	WSRC	Apr-01	Apr-01	40			Testing underway.
		2.2.4.6/FY01/c	Provide input to crosscutting MC&A SDD	WSRC	Apr-01	Apr-02	0			Delayed until FY02 due to funding cut.
2.2.5	Second-Stage Immobilization	Process and	Equipment Development							
2.2.5.1.1	Can-in-Canister Design and Assembly	2.2.5.1.1/FY01/a	Provide draft SDD	WSRC	Dec-00	Jan-01	100			PIP-00-051
		2.2.5.1.1/FY01/b	Provide SDD	WSRC	Jun-01	Apr-02	0			Postponed due to budget cut.
2.2.5.1.2	Canister Pour Analysis and Testing	2.2.5.1.2/FY01/a	Complete ProCAST model report	LLNL	Mar-01					
		2.2.5.1.2/FY01/b	Complete Phase 2 cold pour test report	WSRC	Nov-00	11/30/00	100		11/30/00	PIP-00-134
2.2.5.1.3	Can/Magazine Storage Vault	2.2.5.1.3/FY01/a	Provide input to CIC system SDD	WSRC	Apr-01	Jan-01	100			PIP-00-051
2.3 D&T Plan for Form Qualification										
2.3.1	Form Performance Testing and Dissolution Modeling	2.3.1.1/FY01/a	Issue a letter report on the results from the characterization and testing of the radiation damage specimens.	PNNL	Aug-01	Aug-01	20			Experiments in progress
		2.3.1.2/FY01/a	Document results of TCLP tests	ANL	Jan-01	03/31/01	10			Task plan complete, initial management review of safety review completed. Task delayed due to delay in getting safety approval for tests.
		2.3.1.2/FY01/b	Document results of short-term testing of the ceramic	ANL	Jun-01	Jun-01	15			Solution data for baseline ceramic received
		2.3.1.3/FY01/a	Document results of long-term testing of ceramic	ANL	Sep-01	Sep-01	10			Experiments in progress
		2.3.1.4/FY01/a	Issue preliminary report on PUF results from pyrochlore baseline ceramic	PNNL	Jun-01	Jun-01	15			Initiation of experiments delayed
		2.3.1.4/FY01/b	Issue report on status of drip tests update the repository data package with results from the SPFT on radiation damage specimens and LLNL	ANL	Aug-01	Aug-01	12			Experiments in progress
		2.3.1.5/FY01/a	Issue report updating the ceramic dissolution model	LLNL & PNNL	May-01	May-01	0			
		2.3.1.6/FY01/a	Issue report updating the ceramic dissolution model	LLNL	Sep-01	Sep-01	0			
2.3.4	Form Qualification and Repository Interactions	2.3.4/FY01/a	Issue Rev. 0 of the PICP	WSRC	May-01	Mar-02	0			Delayed due to budget cuts.
		2.3.4/FY01/b	Issue update to integrated data	LLNL	Sep-01	Sep-01	0			
3 D&T Plan for Technology Transfer										
3.1	Preparation for Design Start: Site/Operation Team	3.1.4.1/FY01/a	Issue Technology Review Board Report	WSRC	Jun-01					

FY01 Milestones 1/29/00

WBS	Task	DOE/MD Milestone #	Milestones	Resp. Site		Due Date	Anticipated Comp Date	% Comp	Draft Report Complete	Final Report Complete	Status/ Comments
		3.1.4.2/FY01/a	Issue Conceptual Design Review Board Report	WSRC		Jun-01					

Appendix B: January FY01 Cost Summary Report

FMDP - FY01 IMMOBILIZATION



Immobilization FY01 Spend Plan

5.2.1.2

DOCDR Total

LLNL WSRC - AIDISabatine

Oct 00

Nov 00

Dec 00

Jan 01

Feb 01

Mar 01

Apr 01

May 01

Jun 01

Jul 01

Aug 01

Sept 01

Totals

Cum. Var.

Manpower Projection

Major Procurement Projection

FY00 Liens

Total Monthly Projection

Cumulative Monthly Projection

Cumulative Costs

Cumulative Costs + Liens

15,000

15,000

38,000

0

0

0

0

0

0

0

0

0

68,000

0

271,970

339,970

286,970

301,970

339,970

339,970

339,970

339,970

339,970

339,970

339,970

339,970

15%

-2%

68,000 New FY01 Funds

271,970 Comm. C/O

0 Uncommitted C/O

339,970 Total FY01 Funding

5.2.1.1

Technical Project Office

LLNL WSRC ANL PNNL

Oct 00

Nov 00

Dec 00

Jan 01

Feb 01

Mar 01

Apr 01

May 01

Jun 01

Jul 01

Aug 01

Sept 01

Totals

Cum. Var.

Manpower Projection

Major Procurement Projection

FY00 Liens

Total Monthly Projection

Cumulative Monthly Projection

Cumulative Costs

Cumulative Costs + Liens

91,203

310,732

134,371

95,456

151,871

178,456

157,594

162,956

182,594

167,732

167,232

191,803

1,992,000

0

116,572

2,108,572

207,775

310,732

134,371

95,456

151,871

178,456

157,594

162,956

182,594

167,732

167,232

191,803

2,108,572

207,775

518,507

652,878

748,334

900,205

1,078,661

1,236,255

1,399,211

1,581,805

1,749,537

1,916,769

2,108,572

89,019

223,915

338,282

507,688

205,591

495,169

609,572

738,309

32%

1%

1,942,000 New FY01 Funds

116,572 Comm. C/O

50,000 Uncommitted C/O

2,108,572 Total FY01 Funding

5.2.1.2

QA

LLNL WSRC ANL PNNL

Oct 00

Nov 00

Dec 00

Jan 01

Feb 01

Mar 01

Apr 01

May 01

Jun 01

Jul 01

Aug 01

Sept 01

Totals

Cum. Var.

Manpower Projection

Major Procurement Projection

FY00 Liens

Total Monthly Projection

Cumulative Monthly Projection

Cumulative Costs

Cumulative Costs + Liens

504,109

43,094

40,204

93,549

28,423

36,542

36,835

31,542

31,835

37,500

36,187

35,180

955,000

0

78,529

1,033,529

582,638

43,094

40,204

93,549

28,423

36,542

36,835

31,542

31,835

37,500

36,187

35,180

1,033,529

582,638

625,732

665,936

759,485

787,908

824,450

861,285

892,827

924,662

962,162

998,349

1,033,529

112,909

187,178

258,854

328,181

624,545

670,459

707,049

738,493

57%

3%

955,000 New FY01 Funds

78,529 Comm. C/O

0 Uncommitted C/O

1,033,529 Total FY01 Funding

5.2.1.3

Technical Documentation

LLNL WSRC

Oct 00

Nov 00

Dec 00

Jan 01

Feb 01

Mar 01

Apr 01

May 01

Jun 01

Jul 01

Aug 01

Sept 01

Totals

Cum. Var.

Manpower Projection

Major Procurement Projection

FY00 Liens

Total Monthly Projection

Cumulative Monthly Projection

Cumulative Costs

Cumulative Costs + Liens

12,380

30,000

8,000

7,000

15,600

15,000

14,000

15,000

15,000

14,000

15,000

24,020

185,000

0

164,500

474,500

176,880

30,000

8,000

7,000

15,600

15,000

14,000

15,000

15,000

14,000

15,000

149,020

176,880

206,880

214,880

221,880

237,480

252,480

266,480

281,480

296,480

310,480

325,480

474,500

11,861

44,945

49,605

68,749

176,174

190,086

197,343

204,070

69%

8%

310,000 New FY01 Funds

164,500 Comm. C/O

0 Uncommitted C/O

474,500 Total FY01 Funding

5.2.1.4

Plutonium Facility

LLNL

Oct 00

Nov 00

Dec 00

Jan 01

Feb 01

Mar 01

Apr 01

May 01

Jun 01

Jul 01

Aug 01

Sept 01

Totals

Cum. Var.

Manpower Projection

Major Procurement Projection

FY00 Liens

Total Monthly Projection

Cumulative Monthly Projection

Cumulative Costs

Cumulative Costs + Liens

0

516,666

258,333

67,894

223,390

223,390

223,390

223,390

223,390

223,390

223,390

223,377

2,630,000

0

0

2,630,000

0

516,666

258,333

67,894

223,390

223,390

223,390

223,390

223,390

223,390

223,377

0

516,666

774,999

842,893

1,066,283

1,289,673

1,513,063

1,736,453

1,959,843

2,183,233

2,406,623

2,630,000

0

527,625

498,851

842,893

0

527,625

498,851

842,893

0%

0%

2,630,000 New FY01 Funds

0 Comm. C/O

0 Uncommitted C/O

2,630,000 Total FY01 Funding

5.2.1

D&T Program Management

Lead - Tam Gould

Oct 00

Nov 00

Dec 00

Jan 01

Feb 01

Mar 01

Apr 01

May 01

Jun 01

Jul 01

Aug 01

Sept 01

Totals

Cum. Var.

Manpower Projection

Major Procurement Projection

FY00 Liens

Total Monthly Projection

Cumulative Monthly Projection

Cumulative Costs

Cumulative Costs + Liens

607,692

900,492

440,908

263,899

419,284

453,388

431,819

432,888

452,819

442,622

441,809

474,380

5,762,000

0

359,601

6,246,601

967,293

900,492

440,908

263,899

419,284

453,388

431,819

432,888

452,819

442,622

441,809

599,380

967,293

1,867,785

2,308,693

2,572,592

2,991,876

3,445,264

3,877,083

4,309,971

4,762,790

5,205,412

5,647,221

6,246,601

213,789

983,663

1,145,591

1,747,510

1,006,310

1,883,340

2,012,815

2,523,766

32%

2%

5,837,000 New FY01 Funds

359,601 Comm. C/O

50,000 Uncommitted C/O

6,246,601 Total FY01 Funding

5.2.2.1.1

Feed Materials Characterization and Blanding

LLNL WSRC

Oct 00

Nov 00

Dec 00

Jan 01

Feb 01

Mar 01

Apr 01

May 01

Jun 01

Jul 01

Aug 01

Sept 01

Totals

Cum. Var.

Manpower Projection

Major Procurement Projection

FY00 Liens

Total Monthly Projection

Cumulative Monthly Projection

Cumulative Costs

Cumulative Costs + Liens

37,620

30,000

30,380

33,000

45,000

41,300

41,000

33,300

43,300

43,300

42,800

38,000

459,000

0

1,045

460,045

38,665

30,000

30,380

33,000

45,000

41,300

41,000

33,300

43,300

43,300

42,800

38,000

460,045

38,665

68,665

99,045

132,045

177,045

218,345

259,345

292,645

335,945

379,245

422,045

460,045

37,240

83,280

101,238

132,591

38,285

84,325

102,283

133,636

0%

-1%

233,000 New FY01 Funds

1,045 Comm. C/O

226,000 Uncommitted C/O

460,045 Total FY01 Funding

5.2.2.1.2	Proliferation Resistance <i>LLNL WSRC</i>	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sept 01	Totals	Cum. Var.	
	Manpower Projection	0	0	0	0	0	0	0	0	10,000	10,000	5,000	5,000	30,000		0 New FY01 Funds
	Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	70,000	0	70,000		0 Comm. C/O
	FY00 Liens	0	0	0	0	0	0	0	0	0	0	0	0	0		100,000 Uncommitted C/O
	Total Monthly Projection	0	0	0	0	0	0	0	0	10,000	10,000	75,000	5,000	100,000		100,000 Total FY01 Funding
	Cumulative Monthly Projection	0	0	0	0	0	0	0	0	10,000	20,000	95,000	100,000			#DIV/0!
	Cumulative Costs	0	0	0	0											#DIV/0!
	Cumulative Costs + Liens	0	0	0	0											
5.2.2.1.3	System Integration and Cross-cutting Functions <i>LLNL WSRC</i>	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sept 01	Totals	Cum. Var.	
	Manpower Projection	132,891	110,500	103,000	34,000	43,000	50,000	43,000	43,000	50,000	43,000	50,000	44,609	747,000		698,000 New FY01 Funds
	Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0		2,861 Comm. C/O
	FY00 Liens	2,861	0	0	0	0	0	0	0	0	0	0	0	2,861		49,000 Uncommitted C/O
	Total Monthly Projection	132,891	110,500	103,000	34,000	43,000	50,000	43,000	43,000	50,000	43,000	50,000	44,609	747,000		749,861 Total FY01 Funding
	Cumulative Monthly Projection	132,891	243,391	346,391	380,391	423,391	473,391	516,391	559,391	609,391	652,391	702,391	747,000			0%
	Cumulative Costs	133,632	242,079	339,967	379,504											-1%
	Cumulative Costs + Liens	136,493	244,940	343,648	383,184											
5.2.2.1.4	Material Transport <i>WSRC</i>	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sept 01	Totals	Cum. Var.	
	Manpower Projection	0	3,000	3,000	0	0	0	0	0	0	0	0	0	6,000		6,000 New FY01 Funds
	Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0		0 Comm. C/O
	FY00 Liens	0	0	0	0	0	0	0	0	0	0	0	0	0		0 Uncommitted C/O
	Total Monthly Projection	0	3,000	3,000	0	0	0	0	0	0	0	0	0	6,000		6,000 Total FY01 Funding
	Cumulative Monthly Projection	0	3,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000			-1%
	Cumulative Costs	0	1,597	6,077	6,077											-1%
	Cumulative Costs + Liens	0	1,597	6,077	6,077											
5.2.2.1.5	Waste Handling System <i>WSRC</i>	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sept 01	Totals	Cum. Var.	
	Manpower Projection	5,500	4,500	4,000	-3,000	0	0	0	0	0	0	0	0	11,000		11,000 New FY01 Funds
	Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0		0 Comm. C/O
	FY00 Liens	0	0	0	0	0	0	0	0	0	0	0	0	0		0 Uncommitted C/O
	Total Monthly Projection	5,500	4,500	4,000	-3,000	0	0	0	0	0	0	0	0	11,000		11,000 Total FY01 Funding

IMMOBILIZATION FY01 SPEND PLAN

5.2.2.3.1	Material Receipt and Storage												Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sept 01	Totals	Cum. Var.	10,000 New FY01 Funds 0 Comm. C/O 0 Uncommitted C/O 10,000 Total FY01 Funding
	WSRC																										
	Manpower Projection	0	5,000	5,000	0	0	0	0	0	0	0	0	0	10,000													
	Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0													
	FY00 Liens	0	0	0	0	0	0	0	0	0	0	0	0	0													
	Total Monthly Projection	0	5,000	5,000	0	0	0	0	0	0	0	0	0	10,000													
	Cumulative Monthly Projection	0	5,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000														
	Cumulative Costs	0	2,701	10,066	10,066										-1%												
	Cumulative Costs + Liens	0	2,701	10,066	10,066										-1%												
5.2.2.3.3	Material Size Reduction												Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sept 01	Totals	Cum. Var.	0 New FY01 Funds 0 Comm. C/O 0 Uncommitted C/O 0 Total FY01 Funding
	LLNL WSRC																										
	Manpower Projection	0	0	7,500	-7,500	0	0	0	0	0	0	0	0	0													
	Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0													
	FY00 Liens	0	0	0	0	0	0	0	0	0	0	0	0	0													
	Total Monthly Projection	0	0	7,500	-7,500	0	0	0	0	0	0	0	0	0													
	Cumulative Monthly Projection	0	0	7,500	0	0	0	0	0	0	0	0	0	0													
	Cumulative Costs	-2,270	-2,270	-2,270	-2,270										#DIV / 0!												
	Cumulative Costs + Liens	-2,270	-2,270	-2,270	-2,270										#DIV / 0!												
5.2.2.3.4	Material Unpacking and Sorting												Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sept 01	Totals	Cum. Var.	0 New FY01 Funds 0 Comm. C/O 125,000 Uncommitted C/O 125,000 Total FY01 Funding
	Manpower Projection	10,000	7,600	9,600	-2,000	8,000	15,000	11,000	11,000	15,000	10,000	15,000	14,800	125,000													
	Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0													
	FY00 Liens	0	0	0	0	0	0	0	0	0	0	0	0	0													
	Total Monthly Projection	10,000	7,600	9,600	-2,000	8,000	15,000	11,000	11,000	15,000	10,000	15,000	14,800	125,000													
	Cumulative Monthly Projection	10,000	17,600	27,200	25,200	33,200	48,200	59,200	70,200	85,200	95,200	110,200	125,000														
	Cumulative Costs	9,830	16,245	23,034	25,886										-3%												
	Cumulative Costs + Liens	9,830	16,245	23,034	25,886										-3%												
	5.2.2.3.6	Metal Conversion												Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sept 01	Totals	
Manpower Projection		160,000	240,000	160,000	810,199	250,000	250,000	71,801	0	0	0	0	0	1,942,000													
Major Procurement Projection		0	0	0	0	0	0	0	0	0	0	0	0	0													
FY00 Liens		18,204	0	0	0	0	0	0	0	0	0	0	0	18,204													
Total Monthly Projection		178,204	240,000	160,000	810,199	250,000	250,000	71,801	0	0	0	0	0	1,960,204													
Cumulative Monthly Projection		178,204	418,204	578,204	1,388,403	1,638,403	1,888,403	1,960,204	1,960,204	1,960,204	1,960,204	1,960,204	1,960,204														
Cumulative Costs		137,187	461,164	800,732	1,072,990										23%												
Cumulative Costs + Liens		168,972	491,739	1,109,298	1,381,556										0%												
5.2.2.3.7		Impure Oxide Feed Preparation												Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sept 01	Totals	Cum. Var.
	Manpower Projection	25,000	45,000	45,000	16,000	10,000	0	0	0	0	0	0	0	141,000													
	Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0													
	FY00 Liens	0	0	0	0	0	0	0	0	0	0	0	0	0													
	Total Monthly Projection	25,000	45,000	45,000	16,000	10,000	0	0	0	0	0	0	0	141,000													
	Cumulative Monthly Projection	25,000	70,000	115,000	131,000	141,000	141,000	141,000	141,000	141,000	141,000	141,000	141,000														
	Cumulative Costs	24,078	49,606	111,596	134,106										-2%												
	Cumulative Costs + Liens	24,078	49,606	111,596	134,106										-2%												
	5.2.2.3.8	Materials Characterization												Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sept 01	Totals	Cum. Var.
LLNL WSRC																											
Manpower Projection		51,200	71,100	67,100	35,061	16,000	18,000	15,000	15,000	16,000	14,000	18,000	28,000	364,461													
Major Procurement Projection		0	0	0	0	0	0	0	0	0	0	0	0	0													
FY00 Liens		20,905	0	0	0	0	0	0	0	0	0	0	0	20,905													
Total Monthly Projection		72,105	71,100	67,100	35,061	16,000	18,000	15,000	15,000	16,000	14,000	18,000	28,000	385,366													
Cumulative Monthly Projection		72,105	143,205	210,305	245,366	261,366	279,366	294,366	309,366	325,366	339,366	357,366	385,366														
Cumulative Costs		50,500	133,018	227,582	276,468										-13%												
Cumulative Costs + Liens		72,005	153,923	228,316	276,668										-13%												
5.2.2.3.9	Material Control and Accountability												Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sept 01	Totals	Cum. Var.	0 New FY01 Funds 0 Comm. C/O 0 Uncommitted C/O 0 Total FY01 Funding
	WSRC																										
	Manpower Projection	0	0	0	0	0	0	0	0	0	0	0	0	0													
	Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0													
	FY00 Liens	0	0	0	0	0	0	0	0	0	0	0	0	0													
	Total Monthly Projection	0	0	0	0	0	0	0	0	0	0	0	0	0													
	Cumulative Monthly Projection	0	0	0	0	0	0	0	0	0	0	0	0	0													
	Cumulative Costs	0	0	0	0										#DIV / 0!												
	Cumulative Costs + Liens	0	0	0	0										#DIV / 0!												

IMMOBILIZATION FY01 SPEND PLAN

5.2.2.3.1.0

In-Process Storage Vault

WSRC

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sept 01	Totals	Cum. Var.	
Manpower Projection	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 New FY01 Funds
Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 Comm. C/O
FY00 Liens	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 Uncommitted C/O
Total Monthly Projection	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 Total FY01 Funding
Cumulative Monthly Projection	0	0	0	0	0	0	0	0	0	0	0	0			
Cumulative Costs	0	0	0	0										#DIV/0!	
Cumulative Costs + Liens	0	0	0	0										#DIV/0!	

5.2.2.3

Plutonium Conversion Total

Lead - Mark Bronson

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sept 01	Totals	Cum. Var.	
Manpower Projection	246,200	368,700	294,200	851,760	284,000	283,000	97,801	26,000	31,000	24,000	33,000	42,800	2,582,461	0	1,869,000 New FY01 Funds
Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39,109 Comm. C/O
FY00 Liens	39,109	0	0	0	0	0	0	0	0	0	0	0	39,109	0	713,461 Uncommitted C/O
Total Monthly Projection	285,309	368,700	294,200	851,760	284,000	283,000	97,801	26,000	31,000	24,000	33,000	42,800	2,621,570	0	2,621,570 Total FY01 Funding
Cumulative Monthly Projection	285,309	654,009	948,209	1,799,969	2,083,969	2,366,969	2,464,770	2,490,770	2,521,770	2,545,770	2,578,770	2,621,570			
Cumulative Costs	219,326	660,464	1,170,740	1,517,245											
Cumulative Costs + Liens	272,615	711,944	1,480,041	1,826,012											16% -1%

5.2.2.4.1

Ceramic Feed Batching

WSRC - Lead - Kent Sullivan

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sept 01	Totals	Cum. Var.	
Manpower Projection	13,400	39,200	39,700	-42,300	0	0	0	2,000	2,000	2,000	2,000	2,000	60,000	0	60,000 New FY01 Funds
Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 Comm. C/O
FY00 Liens	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 Uncommitted C/O
Total Monthly Projection	13,400	39,200	39,700	-42,300	0	0	0	2,000	2,000	2,000	2,000	2,000	60,000	0	60,000 Total FY01 Funding
Cumulative Monthly Projection	13,400	52,600	92,300	50,000	50,000	50,000	50,000	52,000	54,000	56,000	58,000	60,000			1%
Cumulative Costs	12,797	29,551	47,574	49,506											1%
Cumulative Costs + Liens	12,797	29,551	47,574	49,506											

5.2.2.4.2.1

Ceramication Process Development

LLNL, WSRC

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sept 01	Totals	Cum. Var.	
Manpower Projection	3,500	3,500	3,500	125,000	25,000	50,000	50,000	41,500	25,000	25,000	25,000	25,000	402,000	0	437,000 New FY01 Funds
Major Procurement Projection	0	0	0	0	5,000	5,000	5,000	4,000	4,000	4,000	4,000	4,000	35,000	0	60,073 Comm. C/O
FY00 Liens	60,073	0	0	0	0	0	0	0	0	0	0	0	60,073	0	0 Uncommitted C/O
Total Monthly Projection	63,573	3,500	3,500	125,000	30,000	55,000	55,000	45,500	29,000	29,000	29,000	29,000	497,073	0	497,073 Total FY01 Funding
Cumulative Monthly Projection	63,573	67,073	70,573	195,573	225,573	280,573	335,573	381,073	410,073	439,073	468,073	497,073			0%
Cumulative Costs	3,418	12,292	106,838	196,526											-1%
Cumulative Costs + Liens	63,492	72,365	106,911	196,600											

5.2.2.4.2.3

Ceramication Prototype Test Facility (CPTF)

WSRC, Clemson

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sept 01	Totals	Cum. Var.	
Manpower Projection	281,500	320,700	400,400	-70,900	260,000	320,000	260,000	300,000	320,000	350,000	436,000	377,275	3,554,975	0	4,189,600 New FY01 Funds
Major Procurement Projection	0	0	0	1,659,600	0	0	0	0	0	220,000	0	0	1,879,600	0	960,052 Comm. C/O
FY00 Liens	960,052	0	0	0	0	0	0	0	0	0	0	0	960,052	0	1,244,975 Uncommitted C/O
Total Monthly Projection	1,241,552	320,700	400,400	1,588,700	260,000	320,000	260,000	300,000	320,000	570,000	436,000	377,275	6,394,627	0	6,394,627 Total FY01 Funding
Cumulative Monthly Projection	1,241,552	1,562,252	1,962,652	3,551,352	3,811,352	4,131,352	4,391,352	4,691,352	5,011,352	5,581,352	6,017,352	6,394,627			59%
Cumulative Costs	359,989	618,515	959,492	1,455,981											0%
Cumulative Costs + Liens	1,223,967	1,471,740	1,683,227	3,534,531											

5.2.2.4.2.2

Plutonium Ceramic Test Facility (PuCTF)

LLNL, WSRC

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sept 01	Totals	Cum. Var.	
Manpower Projection	610,000	637,000	587,000	205,000	530,000	435,000	230,000	194,000	235,000	230,000	235,000	265,999	4,393,999	0	4,176,000 New FY01 Funds
Major Procurement Projection	30,000	30,000	30,000	20,000	0	0	0	0	0	0	0	0	110,000	0	140,877 Comm. C/O
FY00 Liens	140,678	0	0	0	0	0	0	0	0	0	0	0	140,678	0	328,000 Uncommitted C/O
Total Monthly Projection	780,678	667,000	617,000	225,000	530,000	435,000	230,000	194,000	235,000	230,000	235,000	265,999	4,644,677	0	4,644,677 Total FY01 Funding
Cumulative Monthly Projection	780,678	1,447,678	2,064,678	2,289,678	2,819,678	3,254,678	3,484,678	3,678,678	3,913,678	4,143,678	4,378,678	4,644,677			5%
Cumulative Costs	609,415	1,182,405	1,841,241	2,186,346											0%
Cumulative Costs + Liens	780,352	1,392,052	1,933,714	2,278,661											

5.2.2.4.3

Puck NDE/MC&A for Process Control and SNM Accountability

LLNL, WSRC

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sept 01	Totals	Cum. Var.	
Manpower Projection	5,500	25,100	48,900	-18,700	32,000	36,000	30,000	30,000	34,000	31,000	33,500	30,000	317,300	0	267,000 New FY01 Funds
Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0	0	245,700 Comm. C/O
FY00 Liens	245,700	0	0	0	0	0	0	0	0	0	0	0	245,700	0	50,300 Uncommitted C/O
Total Monthly Projection	251,200	25,100	48,900	-18,700	32,000	36,000	30,000	30,000	34,000	31,000	33,500	30,000	563,000	0	563,000 Total FY01 Funding
Cumulative Monthly Projection	251,200	276,300	325,200	306,500	338,500	374,500	404,500	434,500	468,500	499,500	533,000	563,000			85%
Cumulative Costs	5,359	22,836	40,919	45,432											5%
Cumulative Costs + Liens	251,059	268,536	286,619	291,132											

5.2.2.4.4

Recycle of Unacceptable Materials

LLNL, WSRC

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sept 01	Totals	Cum. Var.	
Manpower Projection	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 New FY01 Funds
Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 Comm. C/O
FY00 Liens	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 Uncommitted C/O
Total Monthly Projection	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 Total FY01 Funding
Cumulative Monthly Projection	0	0	0	0	0	0	0	0	0	0	0	0			
Cumulative Costs	32	65	65	61											#DIV/0!
Cumulative Costs + Liens	32	65	65	61											#DIV/0!

5.2.2.4.5	Can Loading WSRC	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sept 01	Totals	Cum. Var.	
	Manpower Projection	40,800	27,900	34,400	6,900	20,000	25,000	20,000	20,000	25,000	25,000	30,000	25,000	300,000		165,000 New FY01 Funds
	Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0		0 Comm. C/O
	FY00 Liens	0	0	0	0	0	0	0	0	0	0	0	0	0		135,000 Uncommitted C/O
	Total Monthly Projection	40,800	27,900	34,400	6,900	20,000	25,000	20,000	20,000	25,000	25,000	30,000	25,000	300,000		300,000 Total FY01 Funding
	Cumulative Monthly Projection	40,800	68,700	103,100	110,000	130,000	155,000	175,000	195,000	220,000	245,000	275,000	300,000			
	Cumulative Costs	41,141	75,622	97,617	113,817										-3%	
	Cumulative Costs + Liens	41,141	75,622	97,617	113,817										-3%	
5.2.2.4.6	Can MC&A WSRC	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sept 01	Totals	Cum. Var.	
	Manpower Projection	4,000	7,300	8,200	-10,500	3,000	6,000	3,000	3,000	6,000	0	0	0	30,000		30,000 New FY01 Funds
	Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0		0 Comm. C/O
	FY00 Liens	0	0	0	0	0	0	0	0	0	0	0	0	0		0 Uncommitted C/O
	Total Monthly Projection	4,000	7,300	8,200	-10,500	3,000	6,000	3,000	3,000	6,000	0	0	0	30,000		30,000 Total FY01 Funding
	Cumulative Monthly Projection	4,000	11,300	19,500	9,000	12,000	18,000	21,000	24,000	30,000	30,000	30,000	30,000			
	Cumulative Costs	3,935	6,307	7,304	8,053										11%	
	Cumulative Costs + Liens	3,935	6,307	7,304	8,053										11%	
5.2.2.4	First Stage Immobilization Total Lead - Guy Armantrout	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sept 01	Totals	Cum. Var.	
	Manpower Projection	958,700	1,060,700	1,122,100	194,500	870,000	872,000	593,000	590,500	647,000	663,000	761,500	725,274	9,058,274		9,324,600 New FY01 Funds
	Major Procurement Projection	30,000	30,000	30,000	1,679,600	5,000	5,000	5,000	4,000	4,000	224,000	4,000	4,000	2,024,600		1,406,502 Comm. C/O
	FY00 Liens	1,406,503	0	0	0	0	0	0	0	0	0	0	0	1,406,503		1,758,275 Uncommitted C/O
	Total Monthly Projection	2,395,203	1,090,700	1,152,100	1,874,100	875,000	877,000	598,000	594,500	651,000	887,000	765,500	729,274	12,489,377		12,489,377 Total FY01 Funding
	Cumulative Monthly Projection	2,395,203	3,485,903	4,638,003	6,512,103	7,387,103	8,264,103	8,862,103	9,456,603	10,107,603	10,994,603	11,760,103	12,489,377			
	Cumulative Costs	1,036,086	1,947,593	3,101,049	4,055,722										38%	
	Cumulative Costs + Liens	2,376,775	3,316,238	4,163,031	6,472,361										1%	
5.2.2.5.1.1	Can in Canister Design and Assembly WSRC	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sept 01	Totals	Cum. Var.	
	Manpower Projection	26,000	16,000	16,000	7,000	8,000	12,000	10,000	0	0	0	0	0	95,000		95,000 New FY01 Funds
	Major Procurement Projection	0	0	0												

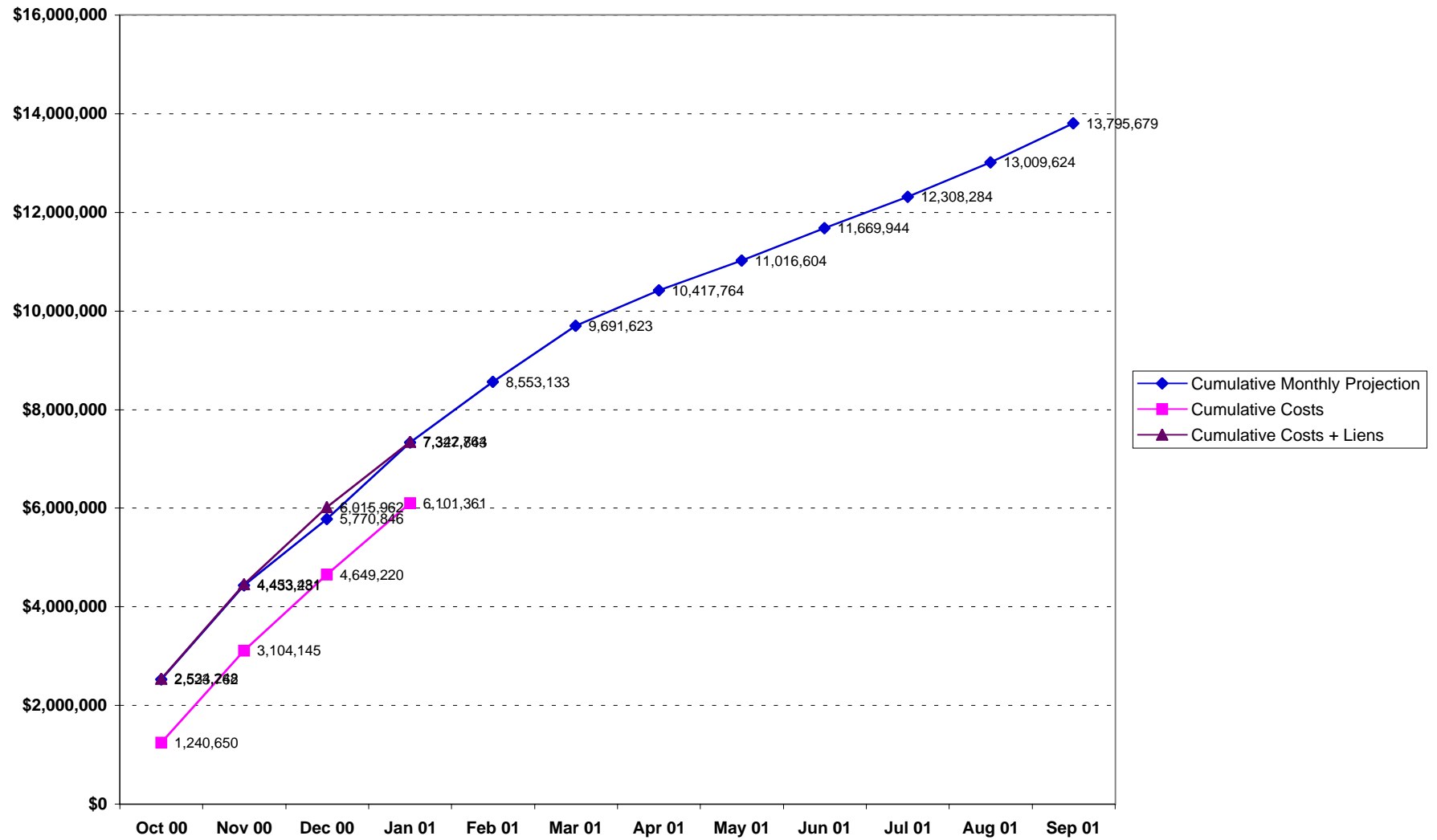
IMMOBILIZATION FY01 SPEND PLAN

5.2.3.1.1	Radiation-Damaged Sample Synthesis													Totals	Cum. Var.	593,000 New FY01 Funds 0 Comm. C/O 0 Uncommitted C/O 593,000 Total FY01 Funding	
	PNNL																
	Manpower Projection	33,212	38,516	42,024	44,780	52,021	59,834	64,213	65,151	52,210	48,478	47,353	45,208				593,000
	Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0				0
	FY00 Liens	0	0	0	0	0	0	0	0	0	0	0	0				0
	Total Monthly Projection	33,212	38,516	42,024	44,780	52,021	59,834	64,213	65,151	52,210	48,478	47,353	45,208				593,000
	Cumulative Monthly Projection	33,212	71,728	113,752	158,532	210,553	270,387	334,600	399,751	451,961	500,439	547,792	593,000				
	Cumulative Costs	33,212	66,671	125,729	172,283												-9%
	Cumulative Costs + Liens	33,212	66,671	126,888	173,442												-9%
	5.2.3.1.2	Short-Term Corrosion Tests															Totals
ANL																	
Manpower Projection		10,000	15,000	8,000	24,000	0	0	0	0	0	0	0	0	57,000			
Major Procurement Projection		0	0	0	0	0	0	0	0	0	0	0	0	0			
FY00 Liens		0	0	0	0	0	0	0	0	0	0	0	0	0			
Total Monthly Projection		10,000	15,000	8,000	24,000	0	0	0	0	0	0	0	0	57,000			
Cumulative Monthly Projection		10,000	25,000	33,000	57,000	57,000	57,000	57,000	57,000	57,000	57,000	57,000					
Cumulative Costs		23,200	40,000	57,200	57,200									0%			
Cumulative Costs + Liens		23,200	40,000	57,200	57,200									0%			
5.2.3.1.3		Long-Term Corrosion Tests													Totals	Cum. Var.	
	ANL																
	Manpower Projection	20,000	30,000	20,000	22,500	22,000	22,000	22,000	22,000	22,000	22,000	22,000	21,835	268,335			
	Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0			
	FY00 Liens	17,500	0	0	0	0	0	0	0	0	0	0	0	17,500			
	Total Monthly Projection	37,500	30,000	20,000	22,500	22,000	22,000	22,000	22,000	22,000	22,000	22,000	21,835	285,835			
	Cumulative Monthly Projection	37,500	67,500	87,500	110,000	132,000	154,000	176,000	198,000	220,000	242,000	264,000	285,835				
	Cumulative Costs	25,700	53,100	84,300	105,300									4%			
	Cumulative Costs + Liens	39,200	62,100	93,300	107,608									2%			
	5.2.3.1.4	Integrated Corrosion Tests															Totals
ANL, PNNL																	
Manpower Projection		40,083	46,750	35,450	38,012	29,100	29,051	29,002	23,928	23,928	23,897	28,902	23,899	372,000			
Major Procurement Projection		0	0	0	0	0	0	0	0	0	0	0	0	0			
FY00 Liens		16,211	0	0	0	0	0	0	0	0	0	0	0	16,211			
Total Monthly Projection		56,294	46,750	35,450	38,012	29,100	29,051	29,002	23,928	23,928	23,897	28,902	23,899	388,211			
Cumulative Monthly Projection		56,294	103,044	138,494	176,506	205,606	234,657	263,659	287,587	311,513	333,410	364,312	388,211				
Cumulative Costs		38,313	69,973	116,846	173,342									2%			
Cumulative Costs + Liens		53,299	81,140	127,755	179,342									-2%			
5.2.3.1.5		Single-Pass Flow-Through Tests													Totals	Cum. Var.	
	LLNL, PNNL																
	Manpower Projection	63,682	52,559	56,559	87,527	33,302	41,117	39,654	41,189	31,214	34,879	32,521	33,298	547,501			
	Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0			
	FY00 Liens	15,491	0	0	0	0	0	0	0	0	0	0	0	15,491			
	Total Monthly Projection	79,173	52,559	56,559	87,527	33,302	41,117	39,654	41,189	31,214	34,879	32,521	33,298	562,992			
	Cumulative Monthly Projection	79,173	131,732	188,291	275,818	309,120	350,237	389,891	431,080	462,294	497,173	529,694	562,992				
	Cumulative Costs	63,485	109,312	189,264	270,129									2%			
	Cumulative Costs + Liens	78,097	133,222	200,447	291,534									-6%			
	5.2.3.1.6	Dissolution Model Development															Totals
LLNL, PNNL																	
Manpower Projection		9,231	9,231	9,231	27,307	0	0	0	0	0	0	0	0	55,000			
Major Procurement Projection		0	0	0	0	0	0	0	0	0	0	0	0	0			
FY00 Liens		0	0	0	0	0	0	0	0	0	0	0	0	0			
Total Monthly Projection		9,231	9,231	9,231	27,307	0	0	0	0	0	0	0	0	55,000			
Cumulative Monthly Projection		9,231	18,462	27,693	55,000	55,000	55,000	55,000	55,000	55,000	55,000	55,000		-1%			
Cumulative Costs		6,660	18,366	28,236	55,515									-1%			
Cumulative Costs + Liens		6,660	18,366	28,236	55,515												
5.2.3.1		Form Performance Testing and Dissolution Modeling Total													Totals	Cum. Var.	
	LLNL, PNNL																
	Manpower Projection	176,208	192,056	171,264	244,126	136,423	152,002	154,869	152,268	129,350	129,254	130,776	124,240	1,892,836			
	Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0			
	FY00 Liens	49,202	0	0	0	0	0	0	0	0	0	0	0	49,202			
	Total Monthly Projection	225,410	192,056	171,264	244,126	136,423	152,002	154,869	152,268	129,350	129,254	130,776	124,240	1,942,038			
	Cumulative Monthly Projection	225,410	417,466	588,730	832,856	969,279	1,121,281	1,276,150	1,428,418	1,557,768	1,687,022	1,817,798	1,942,038				
	Cumulative Costs	190,570	357,421	601,575	833,769									0%			
	Cumulative Costs + Liens	233,668	401,498	633,826	864,641									-4%			
	5.2.3.4	Form Qualification and Repository Interaction															Totals
LLNL, WSR, ANL, PNNL																	
Manpower Projection		52,285	51,972	45,483	62,981	23,909	30,000	29,340	29,550	27,688	27,885	30,650	31,756	443,500			
Major Procurement Projection		0	0	0	0	0	0	0	0	0	0	0	0	0			
FY00 Liens		40	0	0	0	0	0	0	0	0	0	0	0	40			
Total Monthly Projection		52,325	51,972	45,483	62,981	23,909	30,000	29,340	29,550	27,688	27,885	30,650	31,756	443,540			
Cumulative Monthly Projection		52,325	104,298	149,781	212,762	236,671	266,671	296,011	325,561	353,249	381,134	411,784	443,540				
Cumulative Costs		77,864	136,497	177,022	200,111									6%			
Cumulative Costs + Liens		77,904	136,537	177,062	200,151									6%			

IMMOBILIZATION FY01 SPEND PLAN

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LLNL - Immobilization



LLNL Immobilization Project																
LLNL FY01 Spend Plan																
5.1.2	DOCDR Total	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.	
	Lead - Al DiSabatino															
	Manpower Projection	15,000	15,000	38,000	0									68,000		68,000 New FY01 Funds
	Major Procurement Projection													0		271,970 Comm. C/O
	FY00 Liens	271,970												271,970		Uncommitted C/O
	Total Monthly Projection	286,970	15,000	38,000	0	0	0	0	0	0	0	0	0	339,970		339,970 Total FY01 Funding
	Cumulative Monthly Projection	286,970	301,970	339,970	339,970	339,970	339,970	339,970	339,970	339,970	339,970	339,970	339,970			
	Cumulative Costs	109,515	150,110	240,181	290,648											15%
	Cumulative Costs + Liens	285,711	246,732	339,997	345,924											-2%
5.2.1.1	Technical Project Office	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.	
	Tom Gould															
	Manpower Projection	53,000	267,000	90,000	60,000	105,000	120,000	105,000	105,000	120,000	105,000	105,000	131,000	1,366,000		1,366,000 New FY01 Funds
	Major Procurement Projection													0		116,572 Comm. C/O
	FY00 Liens	116,572												116,572		Uncommitted C/O
	Total Monthly Projection	169,572	267,000	90,000	60,000	105,000	120,000	105,000	105,000	120,000	105,000	105,000	131,000	1,482,572		1,482,572 Total FY01 Funding
	Cumulative Monthly Projection	169,572	436,572	526,572	586,572	691,572	811,572	916,572	1,021,572	1,141,572	1,246,572	1,351,572	1,482,572			
	Cumulative Costs	52,488	135,824	212,696	335,398											43%
	Cumulative Costs + Liens	169,060	407,078	483,986	566,019											4%
5.2.1.2	Quality Assurance	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.	
	Tehmau Kan															
	Manpower Projection	472,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	2,000	2,000	503,000		503,000 New FY01 Funds
	Major Procurement Projection													0		63,285 Comm. C/O
	FY00 Liens	63,285												63,285		Uncommitted C/O
	Total Monthly Projection	535,285	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	2,000	2,000	566,285		566,285 Total FY01 Funding
	Cumulative Monthly Projection	535,285	538,285	541,285	544,285	547,285	550,285	553,285	556,285	559,285	562,285	564,285	566,285			
	Cumulative Costs	76,770	116,979	147,050	182,732											66%
	Cumulative Costs + Liens	534,844	538,000	537,335	539,994											1%
5.2.1.3	Document Control	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.	

LLNL Immobilization Project

LLNL FY01 Spend Plan

5.2.2.1.1 Feed Materials Characterization and Blending

Al DiSabatino

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
Manpower Projection	31,120	22,000	21,880	25,000	25,000	20,000	20,000	10,000	20,000	20,000	19,500	14,500	249,000	
Major Procurement Projection													0	
FY00 Liens	1,045												1,045	
Total Monthly Projection	32,165	22,000	21,880	25,000	25,000	20,000	20,000	10,000	20,000	20,000	19,500	14,500	250,045	
Cumulative Monthly Projection	32,165	54,165	76,045	101,045	126,045	146,045	166,045	176,045	196,045	216,045	235,545	250,045		0%
Cumulative Costs	31,120	69,546	74,776	100,851										-1%
Cumulative Costs + Liens	32,165	70,591	75,821	101,896										

49,000 New FY01 Funds
1,045 Comm. C/O
200,000 Uncommitted C/O
250,045 Total FY01 Funding

5.2.2.1.2 Proliferation Resistance

Al DiSabatino

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
Manpower Projection			0	0	0	0	0	0	10,000	10,000	5,000	5,000	30,000	
Major Procurement Projection				0							70,000		70,000	
FY00 Liens													0	
Total Monthly Projection	0	0	0	0	0	0	0	0	10,000	10,000	75,000	5,000	100,000	
Cumulative Monthly Projection	0	0	0	0	0	0	0	0	10,000	20,000	95,000	100,000		#DIV/0!
Cumulative Costs	0	0	0	0										#DIV/0!
Cumulative Costs + Liens	0	0	0	0										

0 New FY01 Funds
0 Comm. C/O
100,000 Uncommitted C/O
100,000 Total FY01 Funding

5.2.2.1.3 System Integration and Cross-cutting Functions

Al DiSabatino

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
Manpower Projection	31,891	17,500	20,000	8,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	14,609	197,000	
Major Procurement Projection													0	
FY00 Liens	2,861												2,861	
Total Monthly Projection	34,752	17,500	20,000	8,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	14,609	199,861	
Cumulative Monthly Projection	34,752	52,252	72,252	80,252	95,252	110,252	125,252	140,252	155,252	170,252	185,252	199,861		5%
Cumulative Costs	31,891	49,286	69,730	76,579										0%
Cumulative Costs + Liens	34,752	52,147	73,411	80,259										

197,000 New FY01 Funds
2,861 Comm. C/O
Uncommitted C/O
199,861 Total FY01 Funding

5.2.2.1.4 Material Transport

Al DiSabatino

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
Manpower Projection	0	0	0	0	0	0	0	0	0	0	0	0	0	
Major Procurement Projection													0	
FY00 Liens	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Monthly Projection	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cumulative Monthly Projection	0	0	0	0	0	0	0	0	0	0	0	0		#DIV/0!
Cumulative Costs	0	0	0	0										#DIV/0!
Cumulative Costs + Liens	0	0	0	0										

0 New FY01 Funds
0 Comm. C/O
Uncommitted C/O
0 Total FY01 Funding

5.2.2.1 Technical Support & Integration

5.2.2.1

Lead - Al DiSabatino

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
Manpower Projection	63,011	39,500	41,880	33,000	40,000	35,000	35,000	25,000	45,000	45,000	39,500	34,109	476,000	
Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	70,000	0	70,000	
FY00 Liens	3,906	0	0	0	0	0	0	0	0	0	0	0	3,906	
Total Monthly Projection	66,917	39,500	41,880	33,000	40,000	35,000	35,000	25,000	45,000	45,000	109,500	34,109	549,906	
Cumulative Monthly Projection	66,917	106,417	148,297	181,297	221,297	256,297	291,297	316,297	361,297	406,297	515,797	549,906		2%
Cumulative Costs	63,011	118,832	144,506	177,430										0%
Cumulative Costs + Liens	66,917	122,738	149,231	182,156										

246,000 New FY01 Funds
3,906 Comm. C/O
300,000 Uncommitted C/O
549,906 Total FY01 Funding

5.2.2.2.3 Processt Control Model Development

Bart Ebblinghaus

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
Manpower Projection	79,000	48,000	36,000	34,000	28,000	17,000							242,000	
Major Procurement Projection													0	
FY00 Liens	89,708												89,708	
Total Monthly Projection	168,708	48,000	36,000	34,000	28,000	17,000	0	0	0	0	0	0	331,708	
Cumulative Monthly Projection	168,708	216,708	252,708	286,708	314,708	331,708	331,708	331,708	331,708	331,708	331,708	331,708		10%
Cumulative Costs	78,539	130,174	221,062	257,477										-7%
Cumulative Costs + Liens	168,246	219,881	270,770	307,185										

137,000 New FY01 Funds
89,708 Comm. C/O
105,000 Uncommitted C/O
331,708 Total FY01 Funding

LLNL Immobilization Project

LLNL FY01 Spend Plan

5.2.2.2 Immobilized Form Development

Total	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
<i>Lead - Guy Armantrout</i>														
Manpower Projection	79,000	48,000	36,000	34,000	28,000	17,000	0	0	0	0	0	0	242,000	
Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0	
FY00 Liens	89,708	0	0	0	0	0	0	0	0	0	0	0	89,708	
Total Monthly Projection	168,708	48,000	36,000	34,000	28,000	17,000	0	0	0	0	0	0	331,708	
Cumulative Monthly Projection	168,708	216,708	252,708	286,708	314,708	331,708	331,708	331,708	331,708	331,708	331,708	331,708		10%
Cumulative Costs	78,539	130,174	221,062	257,477										-7%
Cumulative Costs + Liens	168,246	219,881	270,770	307,185										

137,000 New FY01 Funds
89,708 Comm. C/O
105,000 Uncommitted C/O
331,708 Total FY01 Funding

5.2.2.3.3 Material Size Reduction

Total	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
<i>Mark Bronson</i>														
Manpower Projection	0	0	0	0	0	0	0	0	0	0	0	0	0	
Major Procurement Projection	0												0	
FY00 Liens	0												0	
Total Monthly Projection	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cumulative Monthly Projection	0	0	0	0	0	0	0	0	0	0	0	0		
Cumulative Costs	-2,270	-2,270	-2,270	-2,270										#DIV/0!
Cumulative Costs + Liens	-2,270	-2,270	-2,270	-2,270										#DIV/0!

0 New FY01 Funds
0 Comm. C/O
Uncommitted C/O
0 Total FY01 Funding

5.2.2.3.4 Material Unpacking and Sorting

Total	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
<i>Mark Bronson</i>														
Manpower Projection	0	0	0	0	0	0	0	0	0	0	0	0	0	
Major Procurement Projection													0	
FY00 Liens													0	
Total Monthly Projection	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cumulative Monthly Projection	0	0	0	0	0	0	0	0	0	0	0	0		
Cumulative Costs	243	243	243	229										#DIV/0!
Cumulative Costs + Liens	243	243	243	229										#DIV/0!

0 New FY01 Funds
0 Comm. C/O
Uncommitted C/O
0 Total FY01 Funding

5.2.2.3.6 Metal Conversion

Total	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
<i>Mark Bronson</i>														
Manpower Projection	160,000	230,000	150,000	810,199	250,000	250,000	71,801	0	0	0	0	0	1,922,000	
Major Procurement Projection													0	
FY00 Liens	18,204												18,204	
Total Monthly Projection	178,204	230,000	150,000	810,199	250,000	250,000	71,801	0	0	0	0	0	1,940,204	
Cumulative Monthly Projection	178,204	408,204	558,204	1,368,403	1,618,403	1,868,403	1,940,204	1,940,204	1,940,204	1,940,204	1,940,204	1,940,204		
Cumulative Costs	137,187	461,164	800,732	1,059,837										23%
Cumulative Costs + Liens	168,972	491,739	1,109,298	1,368,403										0%

1,572,000 New FY01 Funds
18,204 Comm. C/O
350,000 Uncommitted C/O
1,940,204 Total FY01 Funding

5.2.2.3.7 Impure Oxide Feed Preparation

Total	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
<i>Mark Bronson</i>														
Manpower Projection	25,000	35,000	35,000	25,000	10,000	0	0	0	0	0	0	0	130,000	
Major Procurement Projection													0	
FY00 Liens													0	
Total Monthly Projection	25,000	35,000	35,000	25,000	10,000	0	0	0	0	0	0	0	130,000	
Cumulative Monthly Projection	25,000	60,000	95,000	120,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000	130,000		
Cumulative Costs	24,078	49,606	100,545	121,981										-2%
Cumulative Costs + Liens	24,078	49,606	100,545	121,981										-2%

56,000 New FY01 Funds
0 Comm. C/O
74,000 Uncommitted C/O
130,000 Total FY01 Funding

5.2.2.3.8 Materials Characterization

Total	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
<i>Mark Bronson</i>														
Manpower Projection	37,000	50,000	50,000	27,461	0	0	0	0	0	0	0	0	164,461	
Major Procurement Projection													0	
FY00 Liens	20,905												20,905	
Total Monthly Projection	57,905	50,000	50,000	27,461	0	0	0	0	0	0	0	0	185,366	
Cumulative Monthly Projection	57,905	107,905	157,905	185,366	185,366	185,366	185,366	185,366	185,366	185,366	185,366	185,366		
Cumulative Costs	37,230	102,852	184,156	222,367										-20%
Cumulative Costs + Liens	58,735	123,757	184,890	222,567										-20%

0 New FY01 Funds
20,905 Comm. C/O
164,461 Uncommitted C/O
185,366 Total FY01 Funding

5.2.2.3 Plutonium Conversion Process/ Equipment Development Total

Total	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
<i>Lead - Mark Bronson</i>														
Manpower Projection	222,000	315,000	235,000	862,660	260,000	250,000	71,801	0	0	0	0	0	2,216,461	
Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0	
FY00 Liens	39,109	0	0	0	0	0	0	0	0	0	0	0	39,109	
Total Monthly Projection	261,109	315,000	235,000	862,660	260,000	250,000	71,801	0	0	0	0	0	2,255,570	
Cumulative Monthly Projection	261,109	576,109	811,109	1,673,769	1,933,769	2,183,769	2,255,570	2,255,570	2,255,570	2,255,570	2,255,570	2,255,570		
Cumulative Costs	196,469	611,595	1,083,406	1,402,143										16%
Cumulative Costs + Liens	249,758	663,075	1,392,707	1,710,910										-2%

1,628,000 New FY01 Funds
39,109 Comm. C/O
588,461 Uncommitted C/O
2,255,570 Total FY01 Funding

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5.2.2.4.2.1	Ceramication Process Development	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.	
	Guy Armantrout															
	Manpower Projection	3,500	3,500	3,500	125,000	25,000	50,000	50,000	41,500	25,000	25,000	25,000	25,000	402,000		437,000 New FY01 Funds
	Major Procurement Projection					5,000	5,000	5,000	4,000	4,000	4,000	4,000		35,000		60,073 Comm. C/O
	FY00 Liens	60,073												60,073		Uncommitted C/O
	Total Monthly Projection	63,573	3,500	3,500	125,000	30,000	55,000	55,000	45,500	29,000	29,000	29,000	29,000	497,073		497,073 Total FY01 Funding
5.2.2.4.2.2	Plutonium Ceramic Test Facility (PuCTF)	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.	
	Guy Armantrout															
	Manpower Projection	580,000	600,000	550,000	200,000	500,000	400,000	200,000	164,000	200,000	200,000	200,000	199,999	3,993,999		3,776,000 New FY01 Funds
	Major Procurement Projection	30,000	30,000	30,000	20,000	0	0	0	0					110,000		140,677 Comm. C/O
	FY00 Liens	140,678												140,678		328,000 Uncommitted C/O
	Total Monthly Projection	750,678	630,000	580,000	220,000	500,000	400,000	200,000	164,000	200,000	200,000	200,000	199,999	4,244,677		4,244,677 Total FY01 Funding
5.2.2.4.3	Puck NDE/MC&A for Process Control and SNM Accountability	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.	
	Guy Armantrout															
	Manpower Projection	0	0	0	3,500	6,000	6,000	6,000	6,000	6,000	6,000	5,500	5,000	50,000		0 New FY01 Funds
	Major Procurement Projection													0		0 Comm. C/O
	FY00 Liens													0		50,000 Uncommitted C/O
	Total Monthly Projection	0	0	0	3,500	6,000	6,000	6,000	6,000	6,000	6,000	5,500	5,000	50,000		50,000 Total FY01 Funding
5.2.2.4.4	Recycle of Unacceptable Materials	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.	
	Guy Armantrout															
	Manpower Projection													0		0 New FY01 Funds
	Major Procurement Projection													0		0 Comm. C/O
	FY00 Liens													0		Uncommitted C/O
	Total Monthly Projection	0	0	0	0	0	0	0	0	0	0	0	0	0		0 Total FY01 Funding
5.2.2.4	First Stage Immobilization Process/Equip Development Total	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.	
	Lead - Guy Armantrout															
	Manpower Projection	583,500	603,500	553,500	328,500	531,000	456,000	256,000	211,500	231,000	231,000	230,500	229,999	4,445,999		4,213,000 New FY01 Funds
	Major Procurement Projection	30,000	30,000	30,000	20,000	5,000	5,000	5,000	4,000	4,000	4,000	4,000	4,000	145,000		200,750 Comm. C/O
	FY00 Liens	200,751	0	0	0	0	0	0	0	0	0	0	0	200,751		378,000 Uncommitted C/O
	Total Monthly Projection	814,251	633,500	583,500	348,500	536,000	461,000	261,000	215,500	235,000	235,000	234,500	233,999	4,791,750		4,791,750 Total FY01 Funding
5.2.2.5.1.2	Canister Pour Analysis and Testing	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.	
	Tehmau Kan															
	Manpower Projection	3,800	0	0	0	2,000	2,200	0	0	0	0	0	0	8,000		8,000 New FY01 Funds
	Major Procurement Projection													0		779 Comm. C/O
	FY00 Liens	779												779		Uncommitted C/O
	Total Monthly Projection	4,579	0	0	0	2,000	2,200	0	0	0	0	0	0	8,779		8,779 Total FY01 Funding
	Manpower Projection	4,579	4,579	4,579	4,579	6,579	8,779	8,779	8,779	8,779	8,779	8,779	8,779			42%
	Cumulative Costs	3,833	3,839	2,668	2,668											5%
	Cumulative Costs + Liens	4,611	4,618	4,344	4,344											

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5.2.2.5 Second Stage Immobilization Process/Equip Development Total

Lead - Tehnau Kan

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
Manpower Projection	3,800	0	0	0	2,000	2,200	0	0	0	0	0	0	8,000	
Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0	
FY00 Liens	779	0	0	0	0	0	0	0	0	0	0	0	779	
Total Monthly Projection	4,579	0	0	0	2,000	2,200	0	0	0	0	0	0	8,779	
Cumulative Monthly Projection	4,579	4,579	4,579	4,579	6,579	8,779	8,779	8,779	8,779	8,779	8,779	8,779		42%
Cumulative Costs	3,833	3,839	2,668	2,668										5%
Cumulative Costs + Liens	4,611	4,618	4,344	4,344										

8,000 New FY01 Funds
779 Comm. C/O
0 Uncommitted C/O
8,779 Total FY01 Funding

5.2.3.1.5 Single-Pass Flow-Through Tests

Henry Shaw

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
Manpower Projection	21,538	21,538	21,538	53,886	0	0	0	0	0	0	0	0	118,500	
Major Procurement Projection													0	
FY00 Liens													0	
Total Monthly Projection	21,538	21,538	21,538	53,886	0	0	0	0	0	0	0	0	118,500	
Cumulative Monthly Projection	21,538	43,076	64,614	118,500	118,500	118,500	118,500	118,500	118,500	118,500	118,500	118,500		0%
Cumulative Costs	21,341	46,931	71,815	118,066										-5%
Cumulative Costs + Liens	21,341	46,931	71,815	124,066										

118,500 New FY01 Funds
0 Comm. C/O
0 Uncommitted C/O
118,500 Total FY01 Funding

5.2.3.1.6 Dissolution Model Development

Henry Shaw

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
Manpower Projection	9,231	9,231	9,231	27,307	0	0	0	0	0	0	0	0	55,000	
Major Procurement Projection													0	
FY00 Liens													0	
Total Monthly Projection	9,231	9,231	9,231	27,307	0	0	0	0	0	0	0	0	55,000	
Cumulative Monthly Projection	9,231	18,462	27,693	55,000	55,000	55,000	55,000	55,000	55,000	55,000	55,000	55,000		-1%
Cumulative Costs	6,660	18,366	28,236	55,515										-1%
Cumulative Costs + Liens	6,660	18,366	28,236	55,515										

55,000 New FY01 Funds
0 Comm. C/O
0 Uncommitted C/O
55,000 Total FY01 Funding

5.2.3.1 Total Form Performance Testing and Dissolution Modeling

Henry Shaw

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
Manpower Projection	30,769	30,769	30,769	81,193	0	0	0	0	0	0	0	0	173,500	
Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0	
FY00 Liens	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Monthly Projection	30,769	30,769	30,769	81,193	0	0	0	0	0	0	0	0	173,500	
Cumulative Monthly Projection	30,769	61,538	92,307	173,500	173,500	173,500	173,500	173,500	173,500	173,500	173,500	173,500		0%
Cumulative Costs	28,001	65,296	100,051	173,581										-4%
Cumulative Costs + Liens	28,001	65,296	100,051	179,581										

173,500 New FY01 Funds
0 Comm. C/O
0 Uncommitted C/O
173,500 Total FY01 Funding

5.2.3.4 Form Qualification and Repository Interaction

Henry Shaw

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
Manpower Projection	21,083	21,083	21,083	66,750	18,900	18,900	18,950	18,950	18,950	18,950	18,950	18,950	281,500	
Major Procurement Projection													0	
FY00 Liens	40												40	
Total Monthly Projection	21,123	21,083	21,083	66,750	18,900	18,900	18,950	18,950	18,950	18,950	18,950	18,950	281,540	
Cumulative Monthly Projection	21,123	42,207	63,290	130,040	148,940	167,840	186,790	205,740	224,690	243,640	262,590	281,540		0%
Cumulative Costs	47,667	81,611	111,298	129,991										0%
Cumulative Costs + Liens	47,707	81,651	111,338	130,031										

281,500 New FY01 Funds
40 Comm. C/O
0 Uncommitted C/O
281,540 Total FY01 Funding

5.2.3 D&T Form Qualification Total

Lead - Henry Shaw

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
Manpower Projection	51,852	51,852	51,852	147,943	18,900	18,900	18,950	18,950	18,950	18,950	18,950	18,950	455,000	
Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0	
FY00 Liens	40	0	0	0	0	0	0	0	0	0	0	0	40	
Total Monthly Projection	51,892	51,852	51,852	147,943	18,900	18,900	18,950	18,950	18,950	18,950	18,950	18,950	455,040	
Cumulative Monthly Projection	51,892	103,745	155,597	303,540	322,440	341,340	360,290	379,240	398,190	417,140	436,090	455,040		0%
Cumulative Costs	75,668	146,907	211,349	303,571										-2%
Cumulative Costs + Liens	75,708	146,947	211,389	309,611										

455,000 New FY01 Funds
40 Comm. C/O
0 Uncommitted C/O
455,040 Total FY01 Funding

LLNL Immobilization Project

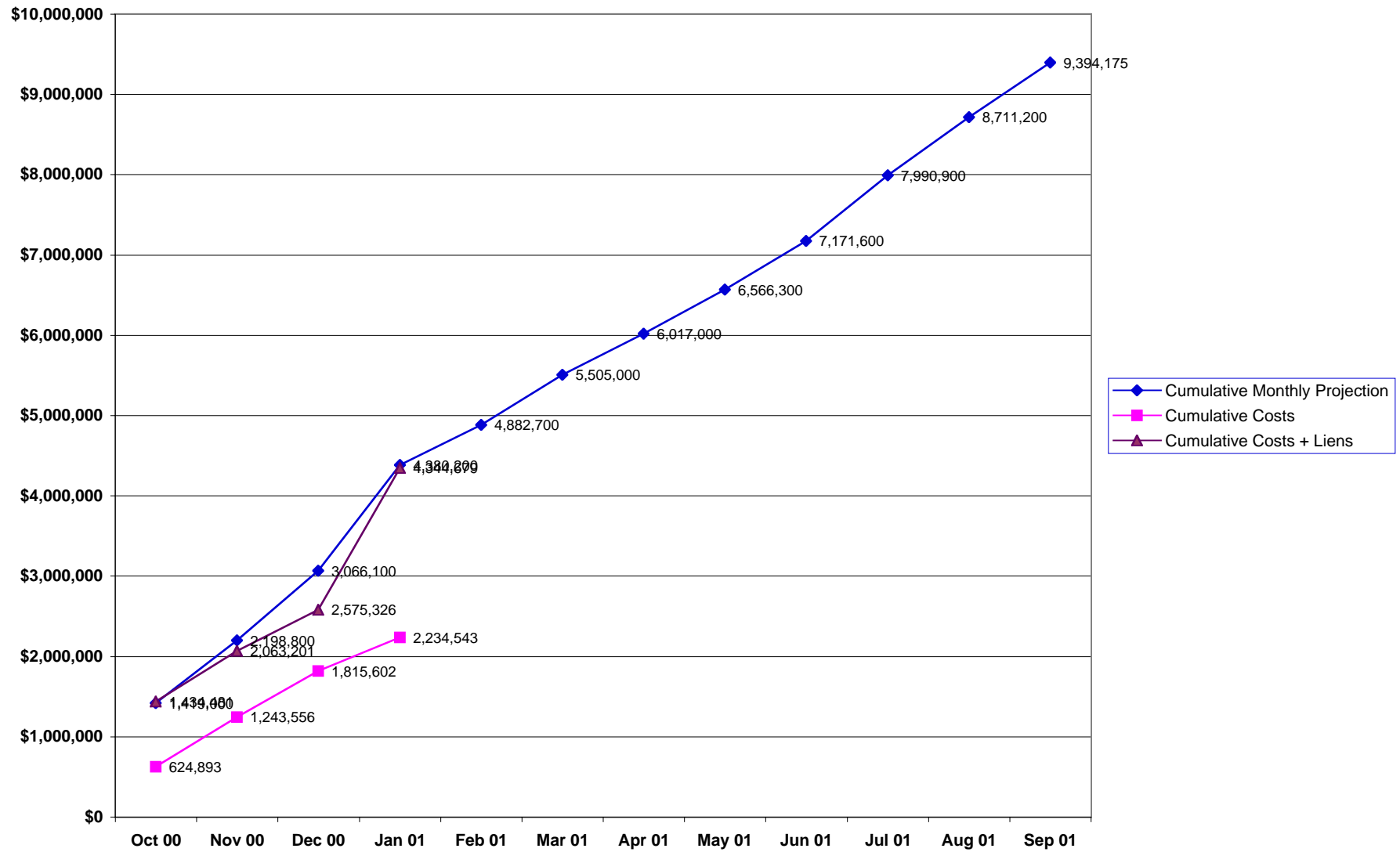
LLNL FY01 Spend Plan

LLNL Immobilization and Associated Processing Total <i>Lead - Tom Gould</i>	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
Manpower Projection	1,543,543	1,879,518	1,307,565	1,536,997	1,220,290	1,133,490	721,141	594,840	649,340	634,340	627,340	657,055	12,505,460	
Major Procurement Projection	30,000	30,000	30,000	20,000	5,000	5,000	5,000	4,000	4,000	4,000	74,000	129,000	340,000	
FY00 Liens	950,219	0	0	0	0	0	0	0	0	0	0	0	950,219	
Total Monthly Projection	2,523,762	1,909,518	1,337,565	1,556,997	1,225,290	1,138,490	726,141	598,840	653,340	638,340	701,340	786,055	13,795,679	
Cumulative Monthly Projection	2,523,762	4,433,281	5,770,846	7,327,843	8,553,133	9,691,623	10,417,764	11,016,604	11,669,944	12,308,284	13,009,624	13,795,679		17%
Cumulative Costs	1,240,650	3,104,145	4,649,220	6,101,361										0%
Cumulative Costs + Liens	2,534,248	4,453,431	6,015,962	7,342,764										

11,474,000 New FY01 Funds
950,219 Comm. C/O
1,371,461 Uncommitted C/O
13,795,680 Total FY01 Funding
1 Funds not allocated

11,474,000 New Funding
950,219 Committed Carryover
1,371,461 Uncommitted Carryover - app

WSRC - Immobilization



WSRC Immobilization Spend Plan

5.2.2.1.3 System Integration and Cross-cutting Functions

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
Manpower Projection	101,000	93,000	83,000	26,000	28,000	35,000	28,000	28,000	35,000	28,000	35,000	30,000	550,000	
Major Procurement Projection													0	
FY00 Liens													0	
Total Monthly Projection	101,000	93,000	83,000	26,000	28,000	35,000	28,000	28,000	35,000	28,000	35,000	30,000	550,000	
Cumulative Monthly Projection	101,000	194,000	277,000	303,000	331,000	366,000	394,000	422,000	457,000	485,000	520,000	550,000		
Cumulative Costs	101,741	192,793	270,237	302,925										0%
Cumulative Costs + Liens	101,741	192,793	270,237	302,925										0%

501,000 FY01 Funding
0 Comm. C/O
49,000 Unob C/O
550,000 Total FY01 Funding

5.2.2.1.4 Material Transport

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
Manpower Projection	0	3,000	3,000	0	0	0	0	0	0	0	0	0	6,000	
Major Procurement Projection													0	
FY00 Liens													0	
Total Monthly Projection	0	3,000	3,000	0	0	0	0	0	0	0	0	0	6,000	
Cumulative Monthly Projection	0	3,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000		
Cumulative Costs	0	1,597	6,077	6,077										-1%
Cumulative Costs + Liens	0	1,597	6,077	6,077										-1%

6,000 FY01 Funding
0 Comm. C/O
0 Unob C/O
6,000 Total FY01 Funding

5.2.2.1.5 Waste Handling System

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
Manpower Projection	5,500	4,500	4,000	-3,000	0	0	0	0	0	0	0	0	11,000	
Major Procurement Projection													0	
FY00 Liens													0	
Total Monthly Projection	5,500	4,500	4,000	-3,000	0	0	0	0	0	0	0	0	11,000	
Cumulative Monthly Projection	5,500	10,000	14,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000		
Cumulative Costs	5,399	6,134	10,636	10,636										3%
Cumulative Costs + Liens	5,399	6,134	10,636	10,636										3%

11,000 FY01 Funding
0 Comm. C/O
0 Unob C/O
11,000 Total FY01 Funding

5.2.2.1 Technical Support & Integration Total

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
Manpower Projection	113,000	108,500	98,500	31,000	48,000	56,300	49,000	51,300	58,300	51,300	58,300	53,500	777,000	
Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0	
FY00 Liens	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Monthly Projection	113,000	108,500	98,500	31,000	48,000	56,300	49,000	51,300	58,300	51,300	58,300	53,500	777,000	
Cumulative Monthly Projection	113,000	221,500	320,000	351,000	399,000	455,300	504,300	555,600	613,900	665,200	723,500	777,000		
Cumulative Costs	113,260	214,258	313,412	351,378										0%
Cumulative Costs + Liens	113,260	214,258	313,412	351,378										0%

702,000 FY01 Funding
0 Comm. C/O
75,000 Unob C/O
777,000 Total FY01 Funding

5.2.2.2.3 Development

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
Manpower Projection	34,700	49,100	34,300	-10,000	27,900	35,000	28,000	26,000	30,000	26,000	32,000	29,000	342,000	
Major Procurement Projection													0	
FY00 Liens	2,000												2,000	
Total Monthly Projection	36,700	49,100	34,300	-10,000	27,900	35,000	28,000	26,000	30,000	26,000	32,000	29,000	344,000	
Cumulative Monthly Projection	36,700	85,800	120,100	110,100	138,000	173,000	201,000	227,000	257,000	283,000	315,000	344,000		
Cumulative Costs	22,097	45,313	88,882	108,948										1%
Cumulative Costs + Liens	35,097	55,978	88,882	108,948										1%

274,000 FY01 Funding
2,000 Comm. C/O
68,000 Unob C/O
344,000 Total FY01 Funding

5.2.2.2 Immobilized Form Development Total

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
Manpower Projection	34,700	49,100	34,300	-10,000	27,900	35,000	28,000	26,000	30,000	26,000	32,000	29,000	342,000	
Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0	
FY00 Liens	2,000	0	0	0	0	0	0	0	0	0	0	0	2,000	
Total Monthly Projection	36,700	49,100	34,300	-10,000	27,900	35,000	28,000	26,000	30,000	26,000	32,000	29,000	344,000	
Cumulative Monthly Projection	36,700	85,800	120,100	110,100	138,000	173,000	201,000	227,000	257,000	283,000	315,000	344,000		
Cumulative Costs	22,097	45,313	88,882	108,948										1%
Cumulative Costs + Liens	35,097	55,978	88,882	108,948										1%

274,000 FY01 Funding
2,000 Comm. C/O
68,000 Unob C/O
344,000 Total FY01 Funding

5.2.2.3.1 Material Receipt & Storage

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
Manpower Projection	0	5,000	5,000	0	0	0	0	0	0	0	0	0	10,000	
Major Procurement Projection													0	
FY00 Liens													0	
Total Monthly Projection	0	5,000	5,000	0	0	0	0	0	0	0	0	0	10,000	
Cumulative Monthly Projection	0	5,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000		
Cumulative Costs	0	2,701	10,066	10,066										-1%
Cumulative Costs + Liens	0	2,701	10,066	10,066										-1%

10,000 FY01 Funding
0 Comm. C/O
0 Unob C/O
10,000 Total FY01 Funding

WSRC Immobilization Spend Plan

5.2.2.3.3

Material Size Reduction

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.	
Manpower Projection			7,500	-7,500	0	0							0		0 FY01 Funding
Major Procurement Projection													0		0 Comm. C/O
FY00 Liens													0		0 Unob C/O
Total Monthly Projection	0	0	7,500	-7,500	0	0	0	0	0	0	0	0	0		0 Total FY01 Funding
Cumulative Monthly Projection	0	0	7,500	0	0	0	0	0	0	0	0	0			
Cumulative Costs	0	0	0	0										#DIV/0!	
Cumulative Costs + Liens	0	0	0	0										#DIV/0!	

5.2.2.3.4

Material Unpacking and Sorting

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.	
Manpower Projection	10,000	7,600	9,600	-2,000	8,000	15,000	11,000	11,000	15,000	10,000	15,000	14,800	125,000		0 FY01 Funding
Major Procurement Projection													0		0 Comm. C/O
FY00 Liens													0		125,000 Unob C/O
Total Monthly Projection	10,000	7,600	9,600	-2,000	8,000	15,000	11,000	11,000	15,000	10,000	15,000	14,800	125,000		125,000 Total FY01 Funding
Cumulative Monthly Projection	10,000	17,600	27,200	25,200	33,200	48,200	59,200	70,200	85,200	95,200	110,200	125,000			
Cumulative Costs	9,587	16,002	22,791	25,657											-2%
Cumulative Costs + Liens	9,587	16,002	22,791	25,657											-2%

5.2.2.3.6

Metal Conversion

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.	
Manpower Projection	0	10,000	10,000	0	0	0	0	0	0	0	0	0	20,000		20,000 FY01 Funding
Major Procurement Projection													0		0 Comm. C/O
FY00 Liens													0		0 Unob C/O
Total Monthly Projection	0	10,000	10,000	0	0	0	0	0	0	0	0	0	20,000		20,000 Total FY01 Funding
Cumulative Monthly Projection	0	10,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000			
Cumulative Costs	0	0	0	13,153											34%
Cumulative Costs + Liens	0	0	0	13,153											34%

5.2.2.3.7

Impure Oxide Feed Preparation

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.	
Manpower Projection		10,000	10,000	-9,000									11,000		11,000 FY01 Funding
Major Procurement Projection													0		0 Comm. C/O
FY00 Liens													0		0 Unob C/O
Total Monthly Projection	0	10,000	10,000	-9,000	0	0	0	0	0	0	0	0	11,000		11,000 Total FY01 Funding
Cumulative Monthly Projection	0	10,000	20,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000			
Cumulative Costs	0	0	11,051	12,125											-10%
Cumulative Costs + Liens	0	0	11,051	12,125											-10%

5.2.2.3.8

Materials Characterization

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.	
Manpower Projection	14,200	21,100	17,100	7,600	16,000	18,000	15,000	15,000	16,000	14,000	18,000	28,000	200,000		200,000 FY01 Funding
Major Procurement Projection													0		0 Comm. C/O
FY00 Liens													0		0 Unob C/O
Total Monthly Projection	14,200	21,100	17,100	7,600	16,000	18,000	15,000	15,000	16,000	14,000	18,000	28,000	200,000		200,000 Total FY01 Funding
Cumulative Monthly Projection	14,200	35,300	52,400	60,000	76,000	94,000	109,000	124,000	140,000	154,000	172,000	200,000			
Cumulative Costs	13,270	30,166	43,426	54,101											10%
Cumulative Costs + Liens	13,270	30,166	43,426	54,101											10%

5.2.2.3.9

Material Control & Accountability

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.	
Manpower Projection	0	0	0	0	0	0	0	0	0	0	0	0	0		0 FY01 Funding
Major Procurement Projection													0		0 Comm. C/O
FY00 Liens													0		0 Unob C/O
Total Monthly Projection	0	0	0	0	0	0	0	0	0	0	0	0	0		0 Total FY01 Funding
Cumulative Monthly Projection	0	0	0	0	0	0	0	0	0	0	0	0			
Cumulative Costs	0	0	0	0										#DIV/0!	
Cumulative Costs + Liens	0	0	0	0										#DIV/0!	

5.2.2.3.10

In-Process Storage Vault

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.	
Manpower Projection	0	0	0	0	0	0	0	0	0	0	0	0	0		0 FY01 Funding
Major Procurement Projection													0		0 Comm. C/O
FY00 Liens													0		0 Unob C/O
Total Monthly Projection	0	0	0	0	0	0	0	0	0	0	0	0	0		0 Total FY01 Funding
Cumulative Monthly Projection	0	0	0	0	0	0	0	0	0	0	0	0			
Cumulative Costs	0	0	0	0										#DIV/0!	
Cumulative Costs + Liens	0	0	0	0										#DIV/0!	

5.2.2.3

Pu Conversion Process/Equipment Development Total

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.	
Manpower Projection	24,200	53,700	59,200	-10,900	24,000	33,000	26,000	26,000	31,000	24,000	33,000	42,800	366,000		241,000 FY01 Funding
Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0		0 Comm. C/O
FY00 Liens	0	0	0	0	0	0	0	0	0	0	0	0	0		125,000 Unob C/O
Total Monthly Projection	24,200	53,700	59,200	-10,900	24,000	33,000	26,000	26,000	31,000	24,000	33,000	42,800	366,000		366,000 Total FY01 Funding
Cumulative Monthly Projection	24,200	77,900	137,100	126,200	150,200	183,200	209,200	235,200	266,200	290,200	323,200	366,000			
Cumulative Costs	22,857	48,869	87,334	115,102											9%
Cumulative Costs + Liens	22,857	48,869	87,334	115,102											9%

WSRC Immobilization Spend Plan

5.2.2.4.1

Ceramic Feed Batching

Oct 00

Nov 00

Dec 00

Jan 01

Feb 01

Mar 01

Apr 01

May 01

Jun 01

Jul 01

Aug 01

Sep 01

Totals

Cum. Var.

Manpower Projection

Major Procurement Projection

FY00 Liens

Total Monthly Projection

Cumulative Monthly Projection

Cumulative Costs

Cumulative Costs + Liens

13,400

39,200

39,700

-42,300

0

0

0

2,000

2,000

2,000

2,000

2,000

60,000

0

0

0

13,400

52,600

92,300

50,000

50,000

50,000

52,000

54,000

56,000

58,000

60,000

60,000

1%

1%

60,000 FY01 Funding

0 Comm. C/O

0 Unob C/O

60,000 Total FY01 Funding

5.2.2.4.2.1

Ceramification Process Development

Oct 00

Nov 00

Dec 00

Jan 01

Feb 01

Mar 01

Apr 01

May 01

Jun 01

Jul 01

Aug 01

Sep 01

Totals

Cum. Var.

Manpower Projection

Major Procurement Projection

FY00 Liens

Total Monthly Projection

Cumulative Monthly Projection

Cumulative Costs

Cumulative Costs + Liens

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

#DIV/0!

#DIV/0!

0 FY01 Funding

0 Comm. C/O

0 Unob C/O

0 Total FY01 Funding

5.2.2.4.2.3

Ceramification Prototype Test Facility (CPTF)

Oct 00

Nov 00

Dec 00

Jan 01

Feb 01

Mar 01

Apr 01

May 01

Jun 01

Jul 01

Aug 01

Sep 01

Totals

Cum. Var.

Manpower Projection

Major Procurement Projection

FY00 Liens

Total Monthly Projection

Cumulative Monthly Projection

Cumulative Costs

Cumulative Costs + Liens

281,500

320,700

400,400

-70,900

260,000

320,000

260,000

300,000

320,000

350,000

436,000

377,275

3,554,975

1,608,000

457,300

5,620,275

457,300

738,800

320,700

400,400

1,317,100

260,000

320,000

260,000

300,000

320,000

570,000

436,000

377,275

5,620,275

738,800

1,059,500

1,459,900

2,777,000

3,037,000

3,357,000

3,617,000

3,917,000

4,237,000

4,807,000

5,243,000

5,620,275

263,915

522,441

751,385

975,817

721,215

968,988

1,180,475

2,760,179

65%

1%

3,918,000 FY01 Funding

457,300 Comm. C/O

1,244,975 Unob C/O

5,620,275 Total FY01 Funding

5.2.2.4.2.2

Plutonium Ceramic Test Facility (PuCTF)

Oct 00

Nov 00

Dec 00

Jan 01

Feb 01

Mar 01

Apr 01

May 01

Jun 01

Jul 01

Aug 01

Sep 01

Totals

Cum. Var.

Manpower Projection

Major Procurement Projection

FY00 Liens

Total Monthly Projection

Cumulative Monthly Projection

Cumulative Costs

Cumulative Costs + Liens

30,000

37,000

37,000

5,000

30,000

35,000

30,000

30,000

35,000

30,000

35,000

66,000

400,000

0

0

400,000

30,000

37,000

37,000

5,000

30,000

35,000

30,000

30,000

35,000

30,000

35,000

66,000

30,000

67,000

104,000

109,000

139,000

174,000

204,000

234,000

269,000

299,000

334,000

400,000

28,875

56,977

83,939

113,187

28,875

56,977

83,939

113,187

-4%

-4%

400,000 FY01 Funding

0 Comm. C/O

0 Unob C/O

400,000 Total FY01 Funding

5.2.2.4.3

Pack NDE/MC&A for Process Control and SNM Accountability

Oct 00

Nov 00

Dec 00

Jan 01

Feb 01

Mar 01

Apr 01

May 01

Jun 01

Jul 01

Aug 01

Sep 01

Totals

Cum. Var.

Manpower Projection

Major Procurement Projection

FY00 Liens

Total Monthly Projection

Cumulative Monthly Projection

Cumulative Costs

Cumulative Costs + Liens

5,500

25,100

48,900

-22,200

26,000

30,000

24,000

24,000

28,000

25,000

28,000

25,000

267,300

0

245,700

513,000

245,700

251,200

25,100

48,900

-22,200

26,000

30,000

24,000

24,000

28,000

25,000

28,000

25,000

251,200

276,300

325,200

303,000

329,000

359,000

383,000

407,000

435,000

460,000

488,000

513,000

5,372

20,481

37,399

41,909

251,072

266,181

283,099

287,609

86%

5%

267,000 FY01 Funding

245,700 Comm. C/O

300 Unob C/O

513,000 Total FY01 Funding

5.2.2.4.5

Can Loading

Oct 00

Nov 00

Dec 00

Jan 01

Feb 01

Mar 01

Apr 01

May 01

Jun 01

Jul 01

Aug 01

Sep 01

Totals

Cum. Var.

Manpower Projection

Major Procurement Projection

FY00 Liens

Total Monthly Projection

Cumulative Monthly Projection

Cumulative Costs

Cumulative Costs + Liens

40,800

27,900

34,400

6,900

20,000

25,000

20,000

20,000

25,000

25,000

30,000

25,000

300,000

0

0

300,000

40,800

27,900

34,400

6,900

20,000

25,000

20,000

20,000

25,000

25,000

30,000

25,000

40,800

68,700

103,100

110,000

130,000

155,000

175,000

195,000

220,000

245,000

275,000

300,000

41,141

75,622

97,617

113,817

41,141

75,622

97,617

113,817

-3%

-3%

165,000 FY01 Funding

0 Comm. C/O

135,000 Unob C/O

300,000 Total FY01 Funding

5.2.2.4.6

Can MC&A

Oct 00

Nov 00

Dec 00

Jan 01

Feb 01

Mar 01

Apr 01

May 01

Jun 01

Jul 01

Aug 01

Sep 01

Totals

Cum. Var.

Manpower Projection

Major Procurement Projection

FY00 Liens

Total Monthly Projection

Cumulative Monthly Projection

Cumulative Costs

Cumulative Costs + Liens

4,000

7,300

8,200

-10,500

3,000

6,000

3,000

3,000

6,000

0

0

0

30,000

0

0

30,000

4,000

7,300

8,200

-10,500

3,000

6,000

3,000

3,000

6,000

0

0

0

30,000

4,000

11,300

19,500

9,000

12,000

18,000

21,000

24,000

30,000

30,000

30,000

3,935

6,307

7,304

8,053

3,935

6,307

7,304

8,053

11%

11%

30,000 FY01 Funding

0 Comm. C/O

0 Unob C/O

30,000 Total FY01 Funding

WSRC Immobilization Spend Plan

**5.2.2.4 First Stage Immobilization Process/
Equip Development Total**

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
Manpower Projection	375,200	457,200	568,600	-134,000	339,000	416,000	337,000	379,000	416,000	432,000	531,000	495,275	4,612,275	
Major Procurement Projection	0	0	0	1,388,000	0	0	0	0	0	220,000	0	0	1,608,000	
FY00 Liens	703,000	0	0	0	0	0	0	0	0	0	0	0	703,000	
Total Monthly Projection	1,078,200	457,200	568,600	1,254,000	339,000	416,000	337,000	379,000	416,000	652,000	531,000	495,275	6,923,275	
Cumulative Monthly Projection	1,078,200	1,535,400	2,104,000	3,358,000	3,697,000	4,113,000	4,450,000	4,829,000	5,245,000	5,897,000	6,428,000	6,923,275		
Cumulative Costs	356,035	711,379	1,025,218	1,302,289										61%
Cumulative Costs + Liens	1,059,035	1,403,626	1,700,008	3,332,351										1%

4,840,000 FY01 Funding
703,000 Comm. C/O
1,380,275 Unob C/O
6,923,275 Total FY01 Funding

**5.2.2.5.1.1 Can-in-Canister Design and
Assembly**

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
Manpower Projection	26,000	16,000	16,000	7,000	8,000	12,000	10,000	0	0	0	0	0	95,000	
Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0	
FY00 Liens	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Monthly Projection	26,000	16,000	16,000	7,000	8,000	12,000	10,000	0	0	0	0	0	95,000	
Cumulative Monthly Projection	26,000	42,000	58,000	65,000	73,000	85,000	95,000	95,000	95,000	95,000	95,000	95,000		
Cumulative Costs	26,482	42,803	58,784	63,689										2%
Cumulative Costs + Liens	26,482	48,152	62,782	67,687										-4%

95,000 FY01 Funding
0 Comm. C/O
0 Unob C/O
95,000 Total FY01 Funding

5.2.2.5.1.2 Canister Pour Analysis and Testing

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
Manpower Projection	23,000	23,000	20,000	-30,000	7,000	9,000	8,000	6,000	6,000	3,000	0	0	75,000	
Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0	
FY00 Liens	43,000	0	0	0	0	0	0	0	0	0	0	0	43,000	
Total Monthly Projection	66,000	23,000	20,000	-30,000	7,000	9,000	8,000	6,000	6,000	3,000	0	0	118,000	
Cumulative Monthly Projection	66,000	89,000	109,000	79,000	86,000	95,000	103,000	109,000	115,000	118,000	118,000	118,000		
Cumulative Costs	21,728	38,361	45,626	48,846										38%
Cumulative Costs + Liens	63,228	88,861	70,626	73,846										7%

75,000 FY01 Funding
43,000 Comm. C/O
0 Unob C/O
118,000 Total FY01 Funding

5.2.2.5.1.3 Can/Magazine Storage Vault

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
Manpower Projection	0	0	0	1,000	0	0	0	0	0	0	0	0	1,000	
Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0	
FY00 Liens	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Monthly Projection	0	0	0	1,000	0	0	0	0	0	0	0	0	1,000	
Cumulative Monthly Projection	0	0	0	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000		
Cumulative Costs	0	613	613	613										39%
Cumulative Costs + Liens	0	613	613	613										39%

1,000 FY01 Funding
0 Comm. C/O
0 Unob C/O
1,000 Total FY01 Funding

**5.2.2.5 Second Stage Immobilization
Process/Equip Development Total**

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
Manpower Projection	49,000	39,000	36,000	-22,000	15,000	21,000	18,000	6,000	6,000	3,000	0	0	171,000	
Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0	
FY00 Liens	43,000	0	0	0	0	0	0	0	0	0	0	0	43,000	
Total Monthly Projection	92,000	39,000	36,000	-22,000	15,000	21,000	18,000	6,000	6,000	3,000	0	0	214,000	
Cumulative Monthly Projection	92,000	131,000	167,000	145,000	160,000	181,000	199,000	205,000	211,000	214,000	214,000	214,000		
Cumulative Costs	48,210	81,777	105,023	113,148										22%
Cumulative Costs + Liens	89,710	137,626	134,021	142,146										2%

171,000 FY01 Funding
43,000 Comm. C/O
0 Unob C/O
214,000 Total FY01 Funding

**5.2.3.4 Form Qualification and Repository
Interaction**

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
Manpower Projection	9,300	19,200	15,500	-10,000	4,000	6,000	5,000	6,000	4,000	4,000	6,000	6,000	75,000	
Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0	
FY00 Liens	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Monthly Projection	9,300	19,200	15,500	-10,000	4,000	6,000	5,000	6,000	4,000	4,000	6,000	6,000	75,000	
Cumulative Monthly Projection	9,300	28,500	44,000	34,000	38,000	44,000	49,000	55,000	59,000	63,000	69,000	75,000		
Cumulative Costs	8,795	25,371	29,623	32,173										5%
Cumulative Costs + Liens	8,795	25,371	29,623	32,173										5%

75,000 FY01 Funding
0 Comm. C/O
0 Unob C/O
75,000 Total FY01 Funding

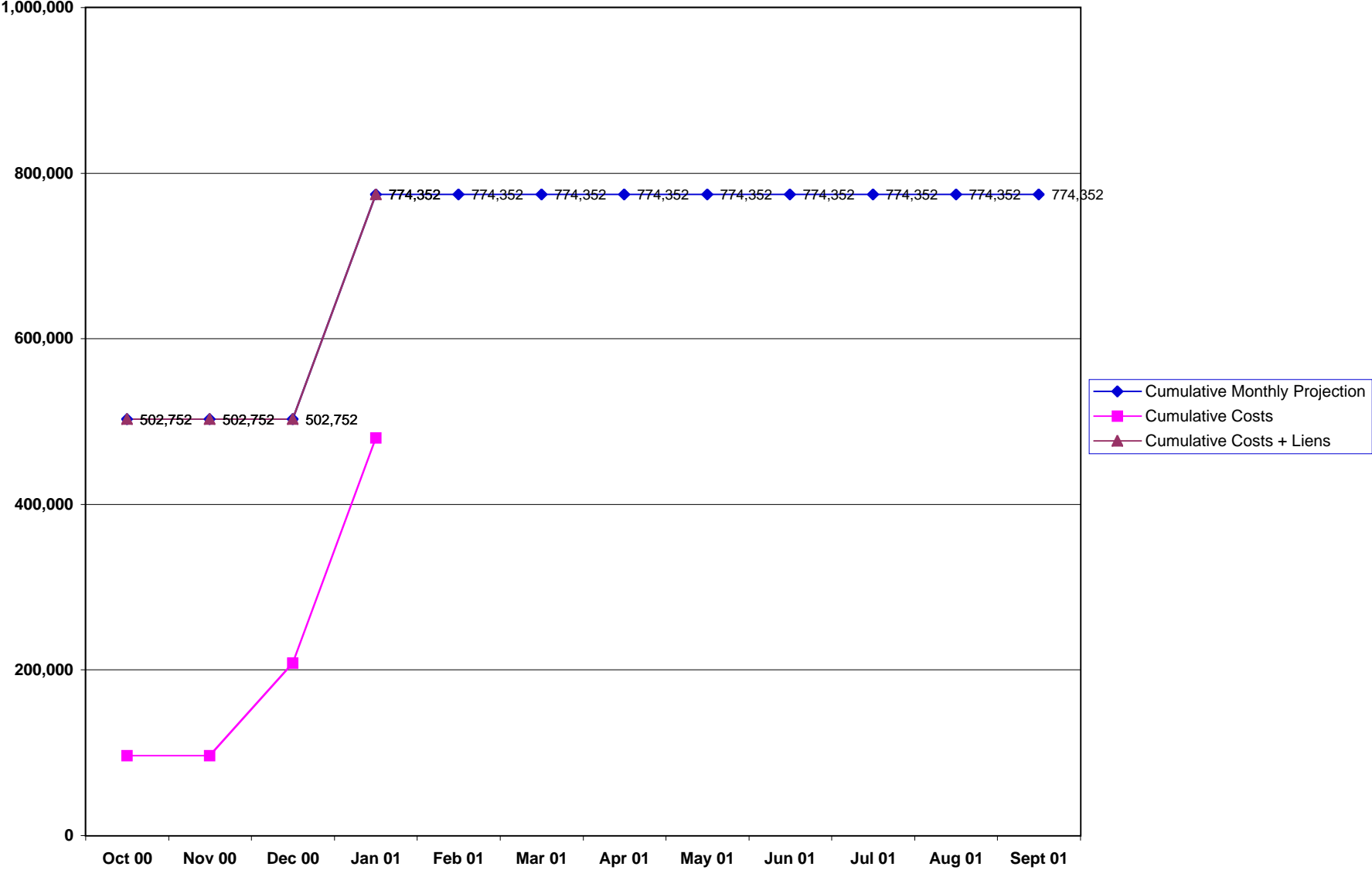
5.2.3 D&T Form Qualification Total

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sep 01	Totals	Cum. Var.
Manpower Projection	9,300	19,200	15,500	-10,000	4,000	6,000	5,000	6,000	4,000	4,000	6,000	6,000	75,000	
Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0	
FY00 Liens	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Monthly Projection	9,300	19,200	15,500	-10,000	4,000	6,000	5,000	6,000	4,000	4,000	6,000	6,000	75,000	
Cumulative Monthly Projection	9,300	28,500	44,000	34,000	38,000	44,000	49,000	55,000	59,000	63,000	69,000	75,000		
Cumulative Costs	8,795	25,371	29,623	32,173										5%
Cumulative Costs + Liens	8,795	25,371	29,623	32,173										5%

75,000 FY01 Funding
0 Comm. C/O
0 Unob C/O
75,000 Total FY01 Funding

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CLEMSON - Immobilization

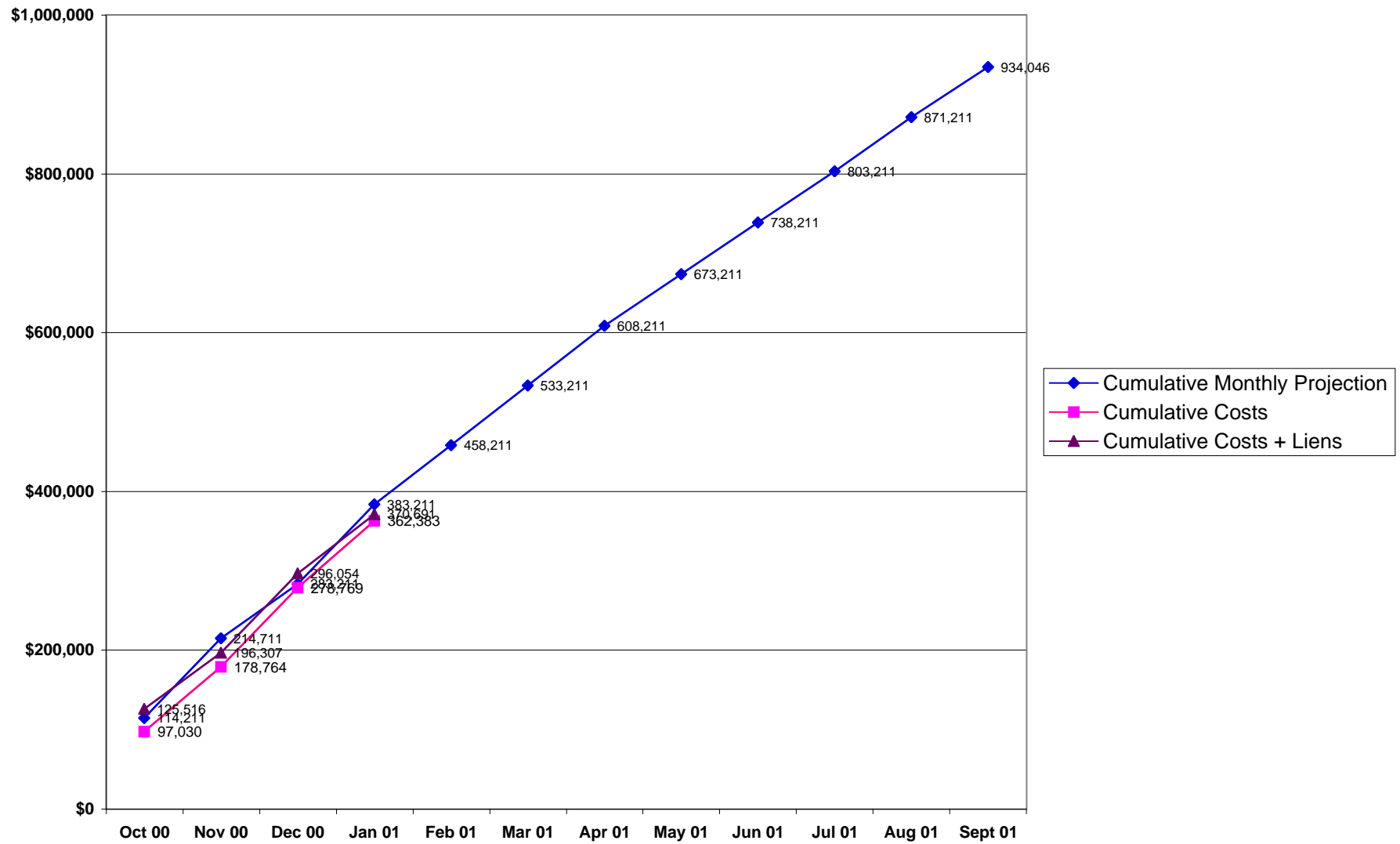


Clemson FY01 Spend Plan

5.2.2.4.3 Ceramic Prototypic Test Facility (CPTF)	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sept 01	Totals	Cum. Var.	
Manpower Projection	0	0	0	0	0	0	0	0	0	0	0	0	0	0	271,600 FY01 Funding
Major Procurement Projection				271,600									271,600		502,752 Comm. C/O
FY00 Liens	502,752												502,752		0 Unob C/O
Total Monthly Projection	502,752	0	0	271,600	0	0	0	0	0	0	0	0	774,352		774,352 Total FY01 Funding
Cumulative Monthly Projection	502,752	502,752	502,752	774,352	774,352	774,352	774,352	774,352	774,352	774,352	774,352	774,352			
Cumulative Costs	96,074	96,074	208,107	480,164										38%	
Cumulative Costs + Liens	502,752	502,752	502,752	774,352										0%	

TOTAL - CLEMSON	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sept 01	Totals	Cum. Var.	
Manpower Projection	0	0	0	0	0	0	0	0	0	0	0	0	0	0	271,600 FY01 Funding
Major Procurement Projection	0	0	0	271,600	0	0	0	0	0	0	0	0	0	0	502,752 Comm. C/O
FY00 Liens	502,752	0	0	0	0	0	0	0	0	0	0	0	0	0	0 Unob C/O
Total Monthly Projection	502,752	0	0	271,600	0	0	0	0	0	0	0	0	0	0	774,352 Total FY01 Funding
Cumulative Monthly Projection	502,752	502,752	502,752	774,352	774,352	774,352	774,352	774,352	774,352	774,352	774,352	774,352			
Cumulative Costs	96,074	96,074	208,107	480,164										38%	
Cumulative Costs + Liens	502,752	502,752	502,752	774,352										0%	

ANL - Immobilization



ANL FY01 Spend Plan

ANL Immobilization Spend Plan

5.2.3.4 Form Qualification and Repository Interaction

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sept 01	Totals	Cum. Var.
Manpower Projection	5,000	5,000	2,000	0	0	0	0	0	0	0	0	0	12,000	
Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0	
FY00 Liens	0												0	
Total Monthly Projection	5,000	5,000	2,000	0	0	0	0	0	0	0	0	0	12,000	
Cumulative Monthly Projection	5,000	10,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000		3%
Cumulative Costs	4,500	8,500	11,700	11,700										3%
Cumulative Costs + Liens	4,500	8,500	11,700	11,700										3%

12,000 FY01 Funding
0 Comm. C/O
0 Unob C/O
12,000 Total FY01 Funding

5.2.3 Form Qualification D&T Plan

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sept 01	Totals	Cum. Var.
Manpower Projection	65,000	85,000	55,000	76,500	50,000	50,000	50,000	45,000	45,000	45,000	50,000	44,835	661,335	
Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0	
FY00 Liens	33,711	0	0	0	0	0	0	0	0	0	0	0	33,711	
Total Monthly Projection	98,711	85,000	55,000	76,500	50,000	50,000	50,000	45,000	45,000	45,000	50,000	44,835	695,046	
Cumulative Monthly Projection	98,711	183,711	238,711	315,211	365,211	415,211	465,211	510,211	555,211	600,211	650,211	695,046		6%
Cumulative Costs	81,630	148,564	234,069	295,883										3%
Cumulative Costs + Liens	110,116	166,107	251,354	304,191										3%

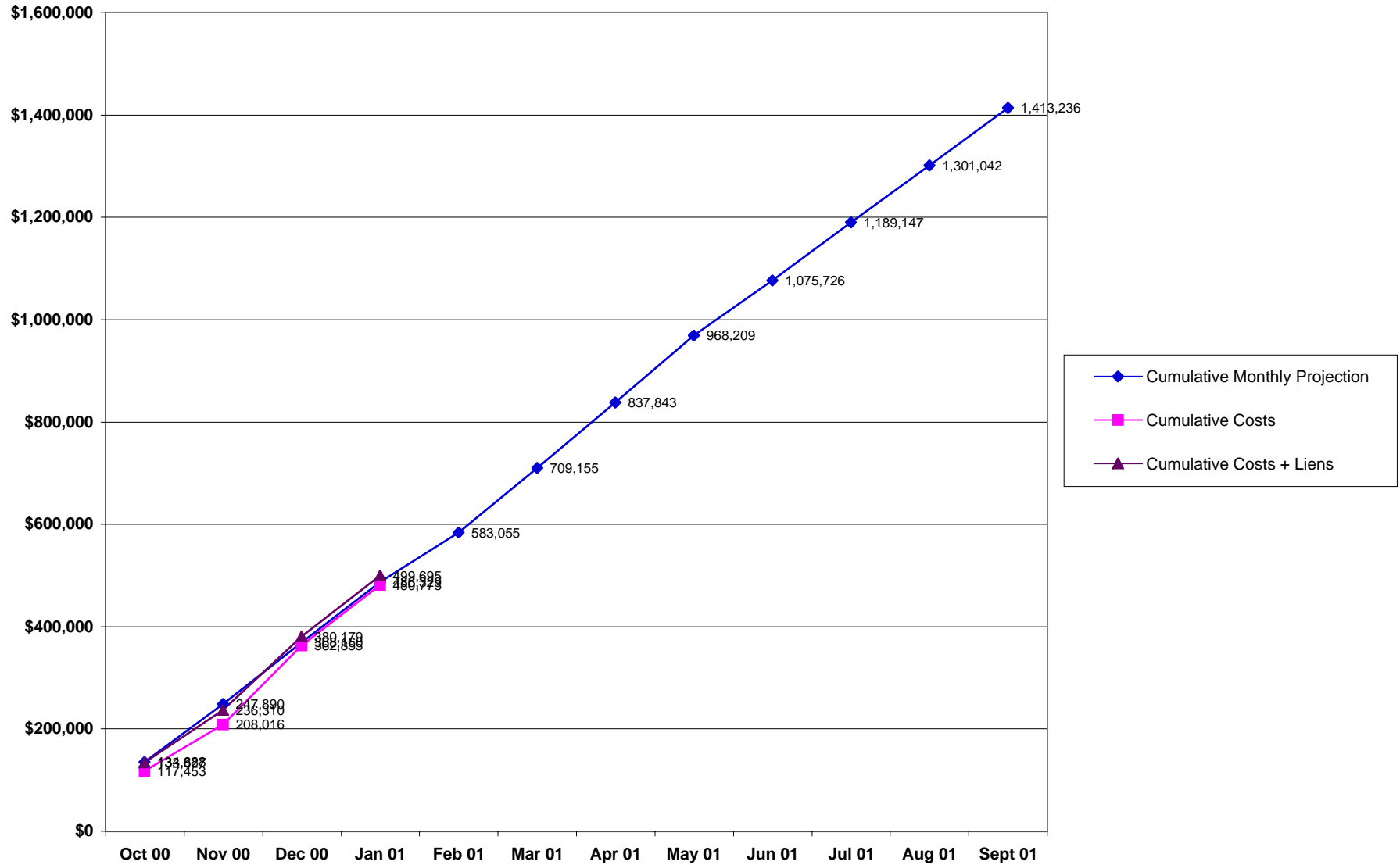
628,000 FY01 Funding
33,711 Comm. C/O
33,335 Unob C/O
695,046 Total FY01 Funding

ANL Immobilization and Associated Processing Total

	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sept 01	Totals	Cum. Var.
Manpower Projection	80,500	100,500	68,500	100,000	75,000	75,000	75,000	65,000	65,000	65,000	68,000	62,835	900,335	
Major Procurement Projection	0	0	0	0	0	0	0	0	0	0	0	0	0	
FY00 Liens	33,711	0	0	0	0	0	0	0	0	0	0	0	33,711	
Total Monthly Projection	114,211	100,500	68,500	100,000	75,000	75,000	75,000	65,000	65,000	65,000	68,000	62,835	934,046	
Cumulative Monthly Projection	114,211	214,711	283,211	383,211	458,211	533,211	608,211	673,211	738,211	803,211	871,211	934,046		5%
Cumulative Costs	97,030	178,764	278,769	362,383										3%
Cumulative Costs + Liens	125,516	196,307	296,054	370,691										3%

867,000 FY01 Funding
33,711 Comm. C/O
33,335 Unob C/O
934,046 Total FY01 Funding

PNNL - Immobilization



5.2.3.1	Form Performance Testing and Dissolution Modeling													Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sept 01	Totals	Cum. Var.		
	Manpower Projection													85,439	81,287	87,495	86,433	86,423	102,002	104,869	107,268	84,350	84,254	80,776	79,405	1,070,001		1,026,000 New FY01 Funds	
	Major Procurement Projection													0	0	0	0	0	0	0	0	0	0	0	0	0	0		15,491 Comm. C/O*
	FY00 Liens													15,491	0	0	0	0	0	0	0	0	0	0	0	0	15,491		44,001 Unob C/O
	Total Monthly Projection													100,930	81,287	87,495	86,433	86,423	102,002	104,869	107,268	84,350	84,254	80,776	79,405	1,085,492		1,085.492 Total FY01 Funding	
	Cumulative Monthly Projection													100,930	182,217	269,712	356,145	442,568	544,570	649,439	756,707	841,057	925,311	1,006,087	1,085,492				
	Cumulative Costs													85,439	152,061	279,155	376,005												
Cumulative Costs + Liens													100,051	178,595	294,121	392,569											-6% -10%		
Form Qualification and Repository Interactions													Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sept 01	Totals	Cum. Var.			
Manpower Projection													16,902	6,689	6,900	6,231	1,009	5,100	5,390	4,600	4,738	4,935	5,700	6,806	75,000		75,000 New FY01 Funds		
Major Procurement Projection																												0 Comm. C/O*	
FY00 Liens																												0 Unob C/O	
Total Monthly Projection													16,902	6,689	6,900	6,231	1,009	5,100	5,390	4,600	4,738	4,935	5,700	6,806	75,000		75,000 Total FY01 Funding		
Cumulative Monthly Projection													16,902	23,591	30,491	36,722	37,731	42,831	48,221	52,821	57,559	62,494	68,194	75,000					
Cumulative Costs													16,902	21,015	24,401	26,247											29%		
Cumulative Costs + Liens													16,902	21,015	24,401	26,247											29%		
D&T Form Qualification Total													Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sept 01	Totals	Cum. Var.			
Manpower Projection													102,341	87,976	94,395	92,664	87,432	107,102	110,259	111,868	89,088	89,189	86,476	86,211	1,145,001		1,101,000 New FY01 Funds		
Major Procurement Projection													0	0	0	0	0	0	0	0	0	0	0	0	0	0		15,491 Comm. C/O*	
FY00 Liens													15,491	0	0	0	0	0	0	0	0	0	0	0	0	15,491		44,001 Unob C/O	
Total Monthly Projection													117,832	87,976	94,395	92,664	87,432	107,102	110,259	111,868	89,088	89,189	86,476	86,211	1,160,492		1,160.492 Total FY01 Funding		
Cumulative Monthly Projection													117,832	205,808	300,203	392,867	480,299	587,401	697,660	809,528	898,616	987,805	1,074,281	1,160,492					
Cumulative Costs													102,341	173,076	303,556	402,252											-2%		
Cumulative Costs + Liens													116,953	199,610	318,522	418,816											-7%		
PNNL Immobilization and Associated Processing Total													Oct 00	Nov 00	Dec 00	Jan 01	Feb 01	Mar 01	Apr 01	May 01	Jun 01	Jul 01	Aug 01	Sept 01	Totals	Cum. Var.			
Manpower Projection													117,453	113,202	120,270	118,169	96,726	126,100	128,688	130,366	107,517	113,421	111,895	112,194	1,396,001		1,352,000 FY01 Funding		
Major Procurement Projection													0	0	0	0	0	0	0	0	0	0	0	0	0	0		17,235 Comm. C/O*	
FY00 Liens													17,235	0	0	0	0	0	0	0	0	0	0	0	0	17,235		44,001 Unob C/O	
Total Monthly Projection													134,688	113,202	120,270	118,169	96,726	126,100	128,688	130,36									